AMERICAN ANNALS OF THE DEAF

Official Organ

Conference of Executives of American Schools for the Deaf
Convention of American Instructors of the Deaf

IRVING S. FUSFELD
Editor

POWRIE V. DOCTOR
Assistant Editor

Under the Direction of

IGNATIUS BJORLEE, of Maryland, 1942
ALFRED L. BROWN, of Colorado, 1942
ELWOOD A. STEVENSON, of California, 1945
CLARENCE J. SETTLES, of Florida, 1945
MRS. H. T. POORE, of Tennessee, 1948
LEONARD M. ELSTAD, of Minnesota, 1948
PERCIVAL HALL, of the District of Columbia, *ex officio*

Executive Committee of the Conference

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THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF

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THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF, originally the Conference of Superintendents and Principals of American Schools for the Deaf, was founded in 1868 and subsequently incorporated under the laws of the State of Maryland in 1931. The Conference is an organization of the executive heads of schools for the deaf in the United States and Canada, and has for its object "to promote the management and operation of schools for the deaf along the broadest and most efficient lines and to further and promote the general welfare of the deaf."

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THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF, founded in 1850 and incorporated by act of Congress in 1897, is an organization of educators of the deaf in the United States and Canada with the general object of "promotion of the education of the deaf on the broadest, most advanced, and practical lines," and for that purpose "to secure the harmonious union, in one organization, of all persons actually engaged in educating the deaf in America."

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AMERICAN ANNALS OF THE DEAF

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Announcement Concerning the Next Meeting of the Conference

HAVING previously accepted the kind invitation of Mr. E. R. Wright, superintendent of the Texas School for the Deaf, to have the Conference of Executives of American Schools for the Deaf hold its next regular triennial meeting, due in the year 1942, in Austin, Texas, the Executive Committee of the Conference now is agreed that the present state of national affairs incident to war purposes makes it inadvisable to hold such a meeting this year.

Accordingly, as Mr. Wright has graciously withdrawn his invitation despite the preparations he had already gotten under way, the meeting of the Conference has been postponed until such time as seems more favorable. The Executive Committee, however, has under advisement the question of just when the postponed meeting may be held.

IGNATIUS BJORLEE, LL.D.
Chairman, Executive Committee

A Letter from Honolulu

Honolulu, T.H., February 24, 1942

To the Editor:

I AM VERY glad to reply to your inquiry as to conditions at this school since the outbreak of the war, particularly so because of the reports that we get back from the Mainland of rather strange rumors which are supposed to start from here.

We certainly are very conscious of the fact that we are at war and also that we are right in the war area, but it really isn't quite so bad as it might appear at first glance. As for the attack itself, it came on Sunday when more than half of our children had gone home for the week-end. It had been in progress for quite a long period of time before we knew of it at the school, and even then we learned somewhat by accident when someone happened to turn on the radio and heard the announcer cautioning people not to use the telephones and to stay off the streets, giving as the reason that the Island was then being attacked.

As we are quite some distance from Pearl Harbor, we were unable to hear any of the attack or see anything to indicate that it was in progress. We all looked in that direction, of course, and could see black specks in the sky but still wondered if it could be true. Any doubts that anyone had quickly ceased when a stray anti-aircraft shell fell near the school, damaging a chicken house and killing a few chickens. There was no damage at the school and no one connected directly with the school was injured. In fact, there was no damage in this area except for the chicken house mentioned.

Schools were closed for a period of two months following the blow up. During part of this time the school teachers were used in a large organization to register by house-to-house canvass and to finger print at local centers all of the quarter of a million people living on this Island.

When school reopened there was quite a large percentage of children who returned very readily, but parents of smaller children were slow in bringing them back to school. Of

our enrollment of one hundred chidren prior to the outbreak, five have been released to take jobs in accordance with the Military Governor's request that children sixteen years of age and older be released if they can do necessary work; eleven children are at their homes on the outside Islands and have not yet returned because of transportation difficulties, and practically all others have returned.

Our faculty and staff are essentially the same as before the war; however, we have one less teacher, Mrs. Muriel O'Callaghan, who was evacuated to the Mainland in accordance with the military order in which wives of service men stationed here must leave the Islands. Three or four of the teachers have stated that they will return to the Mainland after this school year, which indicates at this point that we will have much the same turn-over that we had last year.

Honolulu is not exactly the paradise as pictured in the tourist ads at the present time. It is, however, a great deal more lively and in some respects more interesting than before. We are carrying on at the school in as normal a vein as possible. We are having underground air-raid shelters built on the campus, gas-mask and air-raid drills for the school population and greater emphasis on gardening, but we are also still carrying on our regular school work.

Sincerely yours,

SAM D. PALMER, M.A.
Principal, Territorial School for Deaf and Blind

The Pupil's Case—I

MARIETTA RECTOR VINSON
Instructor in the California School
Berkeley, California

O wad some Pow'r the giftie gie us
To see oursels as ithers see us!—*Burns*

THE LANGUAGE problem in our work with the deaf, like Banquo's ghost, disturbs the present and threatens the future. It makes its appearance inevitably in every classroom, presents itself unceremoniously wherever and whenever members of the profession meet, and intrudes most unghost-like upon the burners of midnight oil.

In spite of the great amount of attention which its seriousness has attracted unto the problem, we see little improvement in the language situation. The majority of deaf pupils still leave school without language adequate for the simplest general needs; the profession still finds it necessary to bolster its professional self-repect by dwelling in thought upon its moderate success with semi-mutes, with the hard of hearing, with pupils of exceptional mental ability, and with the few average pupils with a flair for language or with a past history of exceptional luck in the matter of teachers.

Something effectual should be done about this situation, a situation quite unfair to the deaf pupil and his capabilities. Without minimizing the difficulties to be met because of deafness, the present writer does not for one moment accept deafness as the sole cause of the situation. In fact, it should be said that our lack of qualifications to teach the content of language is one of the chief causes, if not the chief cause, of the situation.

Our lack of qualifications to teach the content of the English language, thoroughly demonstrated by the fragmentary nature of our language work, has somehow escaped us as a fact deserving consideration and remedy. Instead of isolating this fact and dealing with it firmly, we, observing the very unsatisfactory results of our determined, if not

overly discriminating, efforts, have seized upon the so-evident fact of deafness as the entire basis of rationalization for a profession which has thus far failed to recognize and face its inadequacy in the field of teaching language to the deaf. Deafness is ideal for this rationalization. Its victims are so "deaf and dumb," so utterly unable to plead their case and to shift a great deal of the responsibility upon the shoulders of those who have failed miserably in meeting their needs.

Lack of qualifications to teach the content of language is the inevitable result of not knowing what the principles and other facts of language are. That this condition exists to so great an extent in the United States at the present time, with its unprecedented opportunities for education in general, is due to a great extent to the influence of antigrammarians upon the public school systems of this country.

Antigrammarians depend upon common usage as a guide to good English. They hold that a knowledge of the rules of speech does not insure good speech and that, therefore, the time spent in learning grammar is wasted. Although this arraignment was first made during the time of the old, formal method of teaching grammar, many still adhere to the theory.

We shall digress for a moment to present briefly the position taken by advocates of grammar and to discuss a number of relevant points.

Advocates of grammar agree with antigrammarians on one point: That knowledge of the rules of speech is not a guaranty of good speech. Although they have abandoned the theory that grammar is the art of expression, they maintain that the grammatical interpretations of the principles underlying expression are helpful. They hold that the upper-grade pupil needs organized knowledge of rules, constructions, and relations of words and phrases in order to make him independent in testing his own constructions—that he needs sanctions, a "court of last appeal"; that this knowledge is necessary in order to understand some poetry; that grammatical terminology, most of it, is economic; that knowledge of both terminology and constructions is

necessary to discussion of language in the classroom, as in composition. They no longer advocate teaching grammar as an end in itself, but that its teaching should be functional, as a means to an end. In general, they hold that grammar should be taught gradually and informally from about the fourth grade up, in conjunction with composition and literature—more particularly with composition, and that some formal grammar should be given in the high school in order to organize what the pupil has been given informally and to teach such relevant facts as have not been given. Grammar taught in this way, they maintain, justifies itself.[1]

Language is not something which someone invents as the result of study or of an inspiration, nor may one change its principles at will. Forms of expression are the natural interpretations of thought processes. Changes are almost always vocabulary changes. The English language is a thoroughly developed language and a wonderful mechanism. As with all mechanical instruments, one can get more service out of it, can use it to better advantage, can adjust it to one's needs more effectively, can discuss it more intelligently, if one knows the names, uses, and relations of its parts.

Since grammarians analyze and interpret the principles and other facts underlying the English language and, consequently, expression, grammar gives us dependable, unassailable authority for what is correct usage and, therefore, good usage.

To return to the antigrammarians, their theory is loose, without organized standards. Each teacher, or each person—in the last analysis, must determine what is common usage. Considered as a whole, the teacher and pupil are left to wander in the maze of unorganized common usage.

That antigramarians have been able to exert so great an influence upon the public schools is due in part, at least, to the fact that much of the value of grammar is in-

[1] In this statement of opinions held by antigrammarians and advocates of grammar in the public schools, the writer is particularly indebted to Thomas', *The Teaching of English in Secondary Schools* and to Chubb's *The Teaching of English,* Revised, 1929, as well as to personal sources of information.

tangible: The confidence which knowledge gives; the assurance of help to be found in organized rules, principles, and other facts of language when in doubt or when one does not know; the realization of achievement which a person of linguistic conscience feels in knowing that he is using correct language and that he is thus helping in the preservation of the English language at its best.

The conflicting theories, the lack of uniformity in requirements for grammar, and sometimes a complete lack of instruction on the subject, have been disastrous in their effect upon the probability of any particular improvement in the language situation with the deaf, which might have been expected from the increase in educational opportunities in other subjects. In general the public school educational systems of the United States do not prepare teachers to teach the content of the English language. In addition to this, our profession has drifted with the public schools in their attitude concerning grammar, forgetting that teaching grammar is one thing and that teaching language to the deaf is something quite different, forgetting that knowledge of the one is necessary to the teaching of the other. Chubb says,

> We have come to recognize the necessity of following a different method, for insuring a conscious mastery of our native tongue, from that employed in mastering a foreign tongue. In the one case the method must be mainly inductive and analytic; in the other, mainly deductive and synthetic. In the one case we are systematizing and rationalizing the data in our possession; in the other, using the rules that are the outcomes of systematization, as short cuts to the facts.[2]

To the deaf child the English language is a foreign language.

A strange situation in education is manifested here—the crux of the whole affair. The development of systems, or methods, to teach the constructions of language has been in the direction of "using the rules that are the outcomes of systematization, as short cuts to the facts." To the extent that a particular system is based on deduction and synthesis, it conforms to the accepted method to be used in teaching a foreign language. To the extent that the system is definite in indicating the forms of constructions,

[2] *Ibid.*

as well as other facts, it qualifies in the matter of short cuts to the facts. However adequate or inadequate, thorough or incomplete, we have our systems for teaching constructions which take the place of grammatical interpretations in teaching a foreign language to a hearing group. Thus on one side we have the accepted idea of what a method should do and a tool for the purpose, although some theorists oppose the use of one and others seem apologetic about it. On the other side, more often than not, stands the teacher without the knowledge necessary to teach the content of the English language—stands, as she has been prepared and accepted, surrounded by a great mass of unorganized material of which she knows the names, uses, and relations of a few parts, of a few parts of the complex mechanism of the English language.

Even though the situation is stabilized to a limited extent by our skeletonized courses of study in language and by such language principles as happen to come under the teacher's consideration in training, could we expect anything but fragmentary work from the situation, anything but that some of the principles and other facts of language would be taught and that many would not? Courses of study are mere topical indications; *the analysis of the details is of necessity left to the teacher.* Knowledge of grammar is necessary to fully interpret these indications, often necessary to understand the simplest thing about them. Further, a teacher may be very successful in teaching particular principles and yet do very fragmentary work. As we have demonstrated in an analysis of the English language, one must go further in the analysis, uses, and meanings of language in order to teach language thoroughly to the deaf than has been found necessary by any grammarian. Only by complete analysis, systematization, and careful organization may one teach language thoroughly to the deaf.

In addition to the influence of antigrammarians and its ultimate effect upon our work and its tendency to make us forget the importance of grammar in teaching a language, the realities of the subject have been further blurred or dis-

missed by theories of simplification or delimitation or by a shifting of responsibility. Let us consider a few—all misleading, although they are doubtless the outcome of sincere attempts to do something about the unsatisfactory results of our efforts to teach language.

Let us now consider a few fundamentals:

1. *Teach only the principles necessary to expression.*—As we have stated on previous occasions, simple expression is a matter of simple vocabulary, not one of a limited number of language principles and other facts of language. There are a few cases in which two constructions are said to be logically equivalent, although structurally different. Omitting one in each case, what have we? A slight difference affecting upper-grade work.

2. *"Go down town and come back and tell about it."*—Telling about experiences, trips or otherwise, is excellent—for composition. As a program for procedure in teaching the language itself, it is indefensible. We should then only have more fragmentariness. A great deal of work must be done in teaching language principles and vocabulary appropriate to these principles before the pupil can be expected to tell experiences in detail. Work of the type suggested by the theory is built up gradually, from simple statements to details. One might with a great deal of practice on a few types build up a specious show of language with memorization as its basis. This placing of the cart before the horse sounds well, and evidently makes an impression upon those who do not know the realities of the English language and who accept their opinions ready-made.

3. *It all depends upon the teacher.*—No one could, we think, reject this theory in its true sense; but in its implication of the washing of hands by individual schools and by the profession in general beyond a certain limited point, it is an injustice to the teacher. The teacher should be given a chance. Educational theory and practice are established by the leaders in the profession—the leaders in thought and constructive action. It is here suggested that these leaders give grave consideration to the importance of thorough knowledge of the English language as a qualification for

teaching the subject, and that they do away with this anomaly of a science taught by teachers of whom many do not know its principles.

4. *A fallacious theory.*—As this writer has previously stated, one of the most fallacious theories of all time is that because one speaks a language, one knows what to teach in order to teach that language.

From this situation comes the fragmentariness which characterizes our work. The outward manifestations of fragmentary work could only be mixed language and lack of language comprehension. The principles and other facts of language in all their gradations are necessary to full expression. Innately the deaf pupil differs from his hearing brother only in that he cannot hear. He has the same intelligence; he has the same capacity for love, hate, greed—his feelings run the whole gamut of the emotions; he has the same impulses to tell things and to question. There the similarity ends, for he is wholly dependent upon his teacher during his earlier years in school for the language with which to tell these things and with which to question. The tragedy from his point of view is that we so often fail him.

If teachers of the deaf knew more about the English language, we should have less fragmentariness and its corollaries, mixed language and lack of language comprehension. In spite of an increase in opportunities for training in methods and an increase in stress upon language teaching—not an increase in stress upon the importance of knowledge of the English language—when pupils enter the advanced department one finds only a better use of certain principles and, sometimes, a slight increase in the use of other principles. Practically the same amount of fragmentariness exists as before.

Only in exceptional cases is the pupil taught a sufficient number of language principles in the lower grades to enable him to express himself clearly in elementary thought or to carry on upper-grade work satisfactorily. This creates a very difficult situation for the pupil entering the advanced department, and he simply does what he is forced to do: He tries to make what he has been taught serve all purposes, as, in fact, he has been doing all along except that the demands

for language are greater. Could his language be other than mixed? Is there anything surprising about his habits of incorrect usage?

Habits of incorrect usage are easily formed and very difficult for the pupil to break, even after he has been taught the correct form. Unfortunately for the deaf pupil, new facts seldom produce immediate results, even when there are no incorrect habits to oppose the process. Only in exceptional cases may one dispense with the usual amount of repetition necessary for retention and spontaneous use. Thus the time element is against the average pupil entering the advanced department—the time element plus the demands of his subjects for full language use and comprehension, plus habits of incorrect usage, plus the great amount of language work which remains to be done. Many deaf pupils go though school without any knowledge whatsoever of many of the principles and other facts of language.

Do teachers of the deaf in general realize the great extent of fragmentariness in their work, or its nature? Do they realize their lack of qualification to teach the content of language, or that thorough knowledge of grammar is necessary to this qualification? We do not think so. The following incident is suggestive.

A young, sincere teacher once said to the writer, "I have asked to be transferred; I want a chance to teach language principles before they have been presented." We doubt that our explanation of the great number of language principles which remain to be taught when the pupil enters the advanced department made much, if any, impression upon the teacher. That is one of the difficulties: One must know a great deal about language to see clearly—perhaps to believe.

One sometimes wishes that one could say to these young teachers and to others with less study on the subject than one's own, as we have at rare intervals said to our older pupils when we found their enthusiasm running away with them on some theory, "Trust me in this," a little, just enough to lead them to study the subject for themselves. But the situation is not so simple as that. Have we not many years of precedent for doing very much as we are doing now? The old, familiar road is easy to travel; its ruts are deep and

worn smooth from much use. One can travel it without much thought or effort, with eyes half shut. Results? Why they are deaf; what do you expect?

In several ways we can help create a changed situation. We can produce an awakening to the real situation. We can shake off the corroding apathy which we have permitted to settle upon us. We can drop general implications and stress complete particularities. We can present this problem of fragmentariness for what it is, to a great extent the result of our fragmentary efforts in language teaching. We can make clear that the English language is a science with demonstrable principles throughout, not a jumble of this and that, as many appear to think. We can make clear that knowledge of the principles and other facts of language is necessary in order to teach it as it should be taught. We can provide teachers and supervising teachers with an opportunity to acquire this knowledge.

The key to an improved situation and toward which all these other things tend, will be found in providing teachers with a thorough knowledge of the English language. In making that statement, we have a feeling of incongruity, not in the conclusion itself, but in that there should be anyone who does not hold that such knowledge is necessary in teaching language to the deaf.

The retrogressive movement in progress and the professional inertia which affect a great many human beings would doubtless require some rather drastic action if much should be effected within a reasonable time.

A suggestion would be that an opportunity for the teachers to obtain this knowledge be provided by one splendid movement. Select a location suitable for the purpose, provide at least four units of work on the English language by an instructor who knows not only the subject but also the requirements necessary to teach language thoroughly to the deaf, let each school send someone to take this work—someone with enough authority to be acceptable to the teachers or someone selected by the teachers themselves to represent them, with the understanding that these persons present the work later to the teachers of their respective groups.

(To be concluded.)

Suggestions for Composition Work in Advanced Classes

By LAURA L. CROSBY
Instructor in the Wisconsin School
Delavan, Wisconsin

ALTHOUGH the ordinary course of study in schools for the deaf maps out the work of the lower grades with a fairly close degree of detail, such is not usually the case with the work of the advanced grades. It is in recognition of this condition that this paper is offered to those teachers of advanced classes who maintain composition work as a significant portion of their schedule.

To begin with, we must provide the pupil as many outlets as we can for his desire to express himself and thus share his experiences. A very good way to start this is by suggesting such topics as "A Fishing Trip," "A Visit to the Dentist," or "My New Hat." We may allow different members of the class to go to the board and write topic sentences limiting the subject to their own experiences. After some practice at this they may be allowed to develop a topic sentence of their choice into a paragraph. In order to do this the student must realize that the account must be limited to one incident, that it must not cover too long a space of time, and that sequence of events must be kept in mind.

Later they may tell about interesting experiences which require several paragraphs. Such subjects as "When I Was Trying to Help," "It Looked Easy," "Tardy Again," "My Beginning in Athletics," or "The Lesson I Did Not Prepare," should suggest others. Humorous adventures such as "Taking Shoes, Laundry or Something Else in an Unmarked Package," "Planting Strange Seeds," "My First Lesson in Swimming," "A Queer Cake," "Finding the House Locked," will furnish the writer with incentive and also the pleasure of an appreciative audience. Lengthy lists of suggested titles are helpful, for one so often hears, "I can't think of anything to write about." At any time an original title of the

pupil is accepted, but it is often suggested by one in the list.

For the school paper such topics as "My Nickname," "My Most Embarrassing Moment," "My Biggest Mistake," "My Greatest Desire," "My Favorite Pastime," and "My Future Vocation" will suggest interesting accounts which others will enjoy reading. An autobiography following a carefully planned outline is also a pleasant project.

Furthermore, integrating the work in composition with the various activities at the school will help to improve written expression. Early in September, before the first literary society meetings are held, a project may be developed beginning with writing appropriate notices, and proceeding to a class development of the language needed to write the minutes. This work should precede the meetings and each pupil may then be required to act unobtrusively as secretary "pro tem" at the first meetings. A day or so before the second meetings the slight variation in vocabulary required for a program meeting may be discussed and the language patterns be drilled upon if need be. Thereafter, for each meeting a secretary "pro tem" may be chosen from the class and his or her work discussed. Variations of the drill on the necessary language forms may include a monologue by the president, or perhaps a kindly criticism of the conduct of the meeting. If there be both a girls' and a boys' literary society at the school, to which all the high school or high class pupils belong, it would be interesting for the two groups to compare notes.

In like manner a cumulative idiom and vocabulary program relating to athletics in the various seasons may be built up, beginning with "calling out the squad," "trying out," "making the team," "learning the plays," "sub on the first team," "between halves" and continuing through the "tournaments" and "trophies" of the basketball season. Some of these language patterns may have been assimilated but new ones may gradually be added as they are needed to tell about experiences.

To correlate composition with geography it may be suggested that the pupil pretend his home is in another land and tell what he likes to eat or do, or that he is traveling

in a foreign country and writes a letter home.

Language patterns required for telling about matinee or evening dances, the junior prom, or other social activities may be reviewed prior to the occasion by reminiscing about former occasions. New expressions may be added as the need arises.

Scout activities, such as the building of a log cabin for a club room and an open house for the teachers, culminating with an equipment shower, afford subjects for widening language expression, as do the activities in the beauty parlor, domestic science department, bakery and shops, or the work being done on some new building on the campus.

The work in composition may be correlated with that in history at Thanksgiving time by working up a little skit about the first Thanksgiving in three acts dramatizing the laying of the plans, the invitation and finally the celebration itself. In February such a skit may be developed with "The Perfect Tribute" as its basis in a very satisfactory manner from the composition standpoint.

We may correlate our work with that in the studio by asking the teacher to take up manuscript writing with pupils whose writing has been a problem. The lettering and passe partouting of mottoes or quotations which appeal particularly to the student will also help.

The pupil must also be given opportunities to gain skill in the various forms of written English. The development of a topic sentence which appeals to the individual will challenge his best efforts and more firmly impress on him the need of coherence in a paragraph. The following topic sentences may prove interesting:

1. Dogs often show great intelligence.
2. Aviators have performed marvelous feats in the last ten years.
3. My dinner last night came from many parts of the world.
4. A stamp collector does more than gather colored bits of paper.

Paragraphs explaining how to make or how to do certain things should also be developed, the student being made to

understand that systematic directions should begin with a list of materials or implements required and that an orderly account of the procedure should follow. Great care should be taken with the deaf not to assign topics which will lead them into very much involved English with which they are not familiar.

Building up paragraphs dealing with comparisons or contrasts will be a welcome change to the class especially if the material is within their grasp. The following suggestions may bring others to mind:

1. I would rather live in ..... than in Delavan.
2. It is more pleasant to travel by bus than by train.
3. My ideal at seven and now.
4. I would rather play basketball than football.

A comparison of two books, two kinds of cars, two stores or two actors may appeal to some.

The ability to describe someone may at some time be very important to a deaf person. A definite vocabulary and group of expressions are required for this. A good starting point is to describe every member of the class at a distance first: *i.e.,*

1. Frank is of medium height, broad-shouldered and quite erect.
2. Elsie is tall and slender, and stoops a little.

Next the class may imagine that the person has come closer and proceed with an orderly statement of the details, avoiding personalities and minutiae. Thus taking it up step by step and telling about a variety of people, the class may be familiarized with the needed vocabulary in an interesting way.

Conversation at the blackboard may be used as a variety of self-expression. Pupils may be sent to the board in pairs to write conversations, one person looking on the bright side of life, the other on the dark side. They may represent two boys pulling sleds up hill after coasting down, two girls caught in a shower on the way home from a party, or two women washing dishes after a Christmas feast. This will be a pleasant way of reviewing work on:

I am sorry that .....
It is too bad that .....
We were glad that .....*or*
We were surprised that .....

The monthly home letter is a test of the progress the child has made during the previous month. Attention should be given to suitable opening and closing paragraphs, to what makes the letter interesting, to questions evincing an interest in the home and to news of the pupil's health, clothes, activities, school work and friends. The pupil should realize that loyalty to his school and a desire to appear at his best should be a challenge to him to use the very best English he can.

A satisfactory way to stimulate interest in business letter writing has been to write to various places to get material to evaluate movies. The Women's University Club, 943 South Hoover Street, Los Angeles, conducts a picture review service and for ten cents will send one of its monthly film estimates. One may also write to the Movie Guide Department of *The Parent's Magazine,* 114 East Thirty-second Street, New York City. Letters requesting samples or information may also be written. An attempt should be made to suggest such a variety of bulletins and material that the pupil may write for something that he or she really wants.

In order to help the pupils grasp the main point in a paragraph, see the relative importance of several ideas, and express these in clear and concise English, it is helpful to give simple work in précis writing with extremely carefully chosen paragraphs.

Our pupils, as a whole, lack imagination. Therefore, to develop this faculty and stimulate interest in writing, it is well to encourage the writing of imaginary stories. Ideas for these may be obtained from action pictures on magazine covers, particularly *Good Housekeeping* or from experiences which may lend an element of fact. Possibilities for the expansion of such items as the following in newspapers are unlimited:

1. A fire in a barn in Indianapolis popped fifteen tons of popcorn.
2. Four Milwaukee boys were rescued from an ice flow.
3. In Colombia some savages stalked an airplane hoping to find its egg.

As a variation of imaginary stories in the first person told by inanimate objects, each member of the class may fancy himself to be a different kind of timepiece. The tower clock, a grandfather's clock, an alarm clock, a sun dial, an electric clock, a school room clock, the office clock, a cuckoo clock or a soldier's wrist watch may lend themselves admirably for this development. In each story a definite composition plan must be followed.

Workbooks on language usage, drills and conjugations are detached from the creative use of language and therefore of little value. They remind one of the child who, after having written "I have gone" a hundred times, left a note for his teacher which said, "I have did what you want and have went home." How much better it is, after one has made clear the use of *to lay* and *to lie,* to ask the pupils to imagine that they have held a small child in their arms until it fell asleep and tell them to write four sentences telling about placing the child on the couch and its resting there. Or, as a review of the work on the direct object, to require them to underline all the direct objects in their themes.

The following method of introducing variety into the pupils' written work may be used in advanced classes which have become quite proficient in the use of clauses. After having written a theme the pupil may indicate in the margin by the use of the abbreviations *S.*, *Comp.* or *Cplx.* the type of sentence he has used in each case. Thus, by scanning his margin and the margins of his classmates he may be spurred on to try to vary his sentence structure. As a later step he may indicate in the margin by number the following sentence patterns:

1. Subject, verb, object.
2. Subject, verb, predicate, object.

3. Adverb, subject, verb.
4. Participial phrase, subject, verb.

These devices are far more effective than drills with the teacher's sentences or practice pads and will help prepare the class for the variety of expression with which it comes in contact.

In dealing with the vast number of mutish errors a valid approach is by the avenue of "social levels" as described in Dr. Robert C. Pooley's article "Levels of English Use" in the March, 1937 number of *Educational Methods,* in which he lists and describes the

1. Illiterate level.
2. Homely level.
3. Informal standard level.
4. Formal standard level.
5. Literary level.
6. Technical level.

Our pupils are always interested in what their hearing contemporaries are doing. Knowing that there are levels of usage among the hearing they will understand the reason for the queer English they sometimes find in letters or the work of new hard-of-hearing pupils. Then may be drawn from them what they consider the levels of usage among the deaf. The following levels were suggested by one class:

1. No language level.
2. The very simple language level.
3. The mutish level.

They will realize that the acquiring of the informal standard level will depend greatly on the amount they read and they may even want to call this "the level of those who read a great deal."

Each pupil must realize that to raise his level of usage will require the very best individual work possible and the discovery of individual needs. It is well to point out that all do not make the same mistakes and it is therefore the problem of each pupil to study his own shortcomings. Error lists at the back of theme books showing the type and fre-

quency of errors in each composition prove a good device to help eradicate errors due to postponement of effort or over-confidence. By keeping a "Never Again" list of errors most frequently made, a pupil will overcome his mistakes more successfully. Self-help is the very best kind of help.

It is well to remind the pupils that when they were small someone picked up their toys for them but that, if at sixteen they are no longer spoiled children, they must do their own picking up. And *we* must remember that we can not train great minds by running around after them picking up their errors as a nurse picks up the toys of a naughty child. Since in many cases errors are due to thoughtlessness, it is wise merely to underline such errors. In case the number of pupils making similar errors warrants it, a drill should be arranged after the underlying difficulty has been analyzed. In correcting the error it will be wise to refrain from allowing the incorrect form to be written on the board, lest the wrong pattern become fixed. However, as in public school work, we are emerging from an error chasing era, when great lists of errors were made, classified by language concept and then taught.

In all language work compositions should frequently be exchanged in class and read by all, as the desire for an appreciative audience is one of the best motivating forces. As Dr. Pooley says, "English shouldn't be like a police lineup —get in the themes to find the errors."

In closing may we hope that those with whom we work may

1. Learn to enjoy writing.
2. Gain self-confidence through the appreciation of their efforts.
3. Find a variety of things to write about.
4. Learn to criticize their own work as well as that of others.

Should Surveys of Schools for the Deaf Be Made by Persons not Acquainted With the Education of the Deaf?

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AVOWEDLY to promote efficiency, recent years have seen a tendency on the part of government agencies, especially among the states, for self-evaluation. For this purpose professional examining organizations, experts in management and finance, have been called in to survey the state machinery and make recommendations. In a number of cases, state schools for the deaf and kindred institutions, as part of the service rendered by the state, have been included in such surveys. The most recent instances have been the Louisiana State School for the Deaf and the Montana School for the Deaf and Blind. A further instance was the study made a few years ago at the request of the Texas Legislature of the Texas School for the Deaf by a professional firm of examiners who had no direct experience or knowledge of the work of such a school.

For a number of reasons, those who have worked with the deaf regard this practice with disfavor. Since the work of a school for the deaf is so obviously a special educational undertaking, it is equally obvious that when a survey of its activities is undertaken by persons who, because of lack of knowledge and experience, are not competent to make such studies, the recommendations can hardly be trustworthy. This may be said to be true even with reference to managerial matters, for in a school for the deaf or a school for the blind the provision for care and the managemental procedure assume special characteristics growing out of the special nature of the children enrolled. No matter how expert the visiting examiners may be in general finance or general

business management, they are not competent to judge of these special provisions unless they have had long and thorough experience with them. A school for the deaf or a school for the blind may find itself at a serious disadvantage when individuals unfamiliar with the education of the handicapped make recommendations not in accordance with accepted procedures prevailing in these special fields.

The danger of this practice is indicated by the experience of one of the schools for the deaf referred to above. One of the examiners, after spending half a day visiting classes, remarked before he left, according to a statement from the school, that

> he could see no reason why deaf children should be taught orally as they seem to have difficulty reading lips and expressing themselves.

The inconsistency of such a hastily made conclusion may be judged by this quotation from the school paper:

> When the representatives of ———— ———— ————, who are making a survey of all departments and institutions in Montana, visited our school, we were told that one of the most impressive observations was that our pupils did less signing than other schools which have been visited by these representatives.

In the published report of another survey made by the same organization some eight or nine years ago of the Texas School for the Deaf, a report submitted to the legislature of the State, occurred the following illuminating observations on teaching "methods," with particular reference to the harmful effects of permitting the use of manual methods:

> To meet this condition of affairs the school bends every effort to keep the oral pupils away from the manual pupils, in the classroom, in the dormitory, and during recreation hours. This policy is strictly in line with modern methods, as evidenced by the fact that, out of 69 residential schools for the deaf and dumb in the United States, there are but two of which permit the use of signs at all.

In the first place, the alleged experts on the education of the deaf could not have been conversant with "modern methods" when they referred to schools for the deaf as "residential schools for the deaf and dumb." This last term has long been discarded by active workers in our field in the United States. In the second place, their statement as to the widespread prevalence of a drastic prohibition of the

use of signs is an outright misstatement. The seriousness of such an error lies in the possibility that it might have been seized upon to justify a radical and sweeping change in the entire educational policy of the school in question.

According to the experience of at least one of the schools studied as part of a state survey by outside examiners it seems the investigation consisted in large part of the collection of a great deal of information through detailed questionnaire forms filled out by every employee as well as by the institution itself. The information so laboriously contributed by the school and by every member of the school staff was later given back in hurried compilation form as part of the final report, with little effort at comparison in terms of similar data from other schools for the deaf and with only meager interpretative analysis. In the same instance the experts making the study were two in number, described by the head of the school as "one an educator and the other an institutional man, who spent approximately a day and a half going over the plant and interviewing heads of departments."

It is a fair criticism to state that so small a group of examiners, especially if as in this case it comprised persons not conversant with work with the deaf, could hardly be expected in so brief a visit to obtain a thorough grasp of how the school is really functioning, in the integrated pattern of the classroom, playground, dormitory, custodial, moral and extra-school training provided for the children. It is not to be wondered then that in this particular instance, at least, the state school for the deaf and the blind found the final summary and report offered exceedingly little of practical, applicable value.

To undertake investigation of so highly specialized an enterprise as a state school for the deaf requires a specialized approach developed by intimate knowledge of the organization and function of such schools. That the ranks of educators of the deaf can themselves furnish the personnel for such studies is amply proved by the now considerable number of surveys carried out in recent years. Among them were the survey of the Kansas School by the late Dr.

Thomas S. McAloney, of the St. Louis day-school by E. S. Tillinghast, the nation-wide survey of more than forty schools of all types, by Day, Fusfeld and Pintner, under auspices of the National Research Council, the study of the New Jersey School by Reiter, Davies and Fusfeld, of the Maryland State School by Fusfeld, of the Virginia School by Pintner, Forester and Whildin, and more recently of the Alabama and Texas Schools by the Research Department of Gallaudet College.

Measurement of Progress in Reading

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READING tests devised for public school children should be used sparingly with deaf children and with full knowledge that the results are not foolproof. Such tests are valuable when certain limitations are placed upon the results. Good tests are standardized by administering them to many subjects, and statistically working out a table of norms based on the scores made. The norms of a test are only norms for the type of subjects with whom the test was standardized. They are not norms for a type of subject who would not have fitted into the group the test was first administered to for purposes of standardization. A set of norms obtained by administering a test to a group of public school children is not the same as a set that would be obtained by administering the test to the same number of deaf children who are studying the same level of work as the public school children. The deaf children would not have fitted into the group for the original standardization.

The American Education Press in its fine publication *My Weekly Reader* publishes a standardized test three or four times a year. The same test is not duplicated twice in the same year, but an alternate form is used. An alternate or parallel form of test is one in which each question matches a question in the original test and the scale of norms is just the same for both of the tests. A subject should make just the same score on either of the two forms of the test. By testing her children in October with this Weekly Reader test, and again in January with the alternate form, a public school teacher can get a fairly good idea as to the amount of progress her class as a whole and the individuals in her class are making. More than that, by analyzing the mistakes made she can determine whether her class is weakest in word meaning, inference, determining the central thought of the paragraph, or in noting detail. This is possible of course

because each of the four questions following a reading paragraph is designed to test a different reading skill, and it is only necessary to tally the errors to find out what type of question nets the most errors.

Many teachers in schools for the deaf give these tests to their children and analyze the answers in the same way that a public teacher does, and when they are through they think they have the same answers as to the reading ability of their classes as a whole, the reading level of the individuals, and the skill in which their pupils are weakest. *But because of the language handicap of deaf children this is not true.*

In the Virginia School 33 children in the three fourth-grade classes were given Form D of the *My Weekly Reader* test in October, 1941. This form was repeated in January and the Form B was administered on the following day. An analysis of the group scores revealed some interesting points.

TABLE I

Form D—October	*Form D—January*	*Form B—January*
Range 2.5-4.1	Range 2.7-4.4	Range 3.5-4.3
Mean 3.33	Mean 3.58	Mean 3.90
Sigma .42	Sigma .42	Sigma .24

TABLE II

Ratio of Correlation:

Form D October—Form B January .64 ± .07
Form D October—Form D January .70 ± .06
Form D January—Form B January .72 ± .05

The most striking thing to be noted in these results is the difference in range of the two tests, even when given on two succeeding days. The lowest score on Form D in January was 2.7, while the lowest score on Form B was 3.5, nearly a year's difference. Still, the two top scores were about the same. The three correlations falling between .64 and .72 show a strong agreement between the tests as paired. In other words the same children got high marks on both tests, the same children got low marks on both forms and the same children scored in the middle. This of course is to be expected. But these two factors taken together mean that the score a child makes on Form D cannot be com-

pared with the score he makes on Form B. As a hypothetical case we may take the pupil who gets the average or mean score in each of these tests. In October he scores 3.3 on Form D. In January his teacher gives him Form B and he scores 3.9, and she immediately congratulates herself on teaching Johnny so well in reading that he has improved .6 of a year in only three months. However, if she had given him Form D again she would have found that he had improved only .25 of a year.

The number of errors made on each question were tallied, summarized, and analyzed. In each form of this test there are 17 paragraphs to be read, and there are four questions under each paragraph. Question 1 tests attention to detail, as the word that answers the question appears in the paragraph itself. Question 2 measures the child's ability to infer, or draw conclusions from what he has read, as the word itself which is the right answer does not usually appear in the paragraph. Question 3 tests word meaning, as the child is to copy a word from the story which has the same meaning as the word mentioned in the question. Question 4 tests the ability to understand the central thought of the paragraph. This is done by means of a multiple-choice-answer type question. The following table summarizes the number of errors made in each type of question for the 17 paragraphs of the two alternate forms in January.

TABLE III

Question	*Form D*	*Form B*
1 (Detail)	100	123
2 (Inference)	362	198
3 (Word meaning)	374	418
4 (Central thought)	323	295
Total	1159	1034

A glance at these figures shows that thirty-three subjects did not have the same pattern of errors on Form B that they had on Form D. On Form D approximately the same number of errors was made on questions 2 and 3; while on Form B more than twice as many errors were made on question 3 as on question 2.

For two test forms to be parallel they should have a

correlation of well over .90. Table II shows the correlation between Forms D and B to be only .72 when given on successive days. All this means that these forms are not parallel so far as deaf children are concerned.

Why are these forms so dissimilar in testing deaf children? This is so because deaf children are handicapped by language, and by lack of knowledge of certain situations that are familiar to hearing children. For example, if a hearing child knows the word pail, he probably knows the word bucket also, but a deaf child does not. This question form: "What kind of ——?" is no harder for a hearing child than the form: "What did ——— do?" But a deaf child has been drilled on the question form "What did ——— do?" and is usually able to get the answers to such questions correctly, while it is very difficult for him to get the sense of the word "kind" used in a question form. "Kind" to a deaf child means that a person is kind to him, or that he should be kind to animals. He does not recognize "What kind of book did he read?" until he has drilled on that "kind" of question for a long time.

Many small hearing children have heard of Egypt and the Nile River long before they study about it in geography. It comes up in the Bible Stories, fables, and table conversations about the day's world news. The chances are that a deaf child knows nothing about the Nile River, has not even seen the name, until he studies about it in geography, which may not be until the seventh or eighth grade. Then a paragraph about the Nile River in a reading test means something to a hearing child, but may not mean anything at all to a deaf child.

Following this kind of reasoning and analysis it is easy to see why two tests that are identical in difficulty for hearing children may not be so for deaf children. One of the forms may have too many "What kind of ——?" questions in it, or it may refer to a bucket instead of a pail, or it may have a number of paragraphs about places as foreign to the language of the deaf child as the Nile River Valley is.

Are these tests of any value to our children then? They may be if the results are not taken too literally. One test

may sort the children out in a fairly valid rank order, but even that may be questioned at times. The children within the group may be compared with one another, or progress may be measured if the same form of the test is repeated to measure progress. It is proper technique for the public school teacher to use alternate forms in testing to measure progress, because in that way the factor of memory is eliminated. The teacher of the deaf cannot do the same thing, because, until tests are standardized upon deaf children, there will be no identical forms for the deaf.

A Comparison of Congenital and Adventitious Deafness with Respect to Its Effect on Intelligence, Personality, and Social Maturity—Part I: Intelligence

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INTRODUCTION

THAT THERE are differences between congenitally deaf children and children with acquired deafness has long been claimed by educators in this field. However, scientific data which might explain these differences are meagre.

Some educators have expressed the belief that there exists a difference in intelligence, while others have concluded that the difference is primarily one of behavior.

The trend in the education of the deaf, as in other fields of education, is toward individual guidance. Guidance programs which have as their goal better mental hygiene and improvement of academic and vocational adjustment are being established. Therefore, it is becoming of increasing importance that objective data be collected in comparative studies of congenitally deaf children and children with acquired deafness.

STATEMENT OF THE PROBLEM

This experiment was undertaken primarily to determine whether or not there are significant measurable differences in intelligence, social maturity, and personality between children who are congenitally deaf and those who have acquired deafness. It is well known that the type of deafness cannot be determined with absolute certainty. A child who became deaf prior to six months of age because of illness,

or other causes, might be considered congenitally deaf. It was necessary, therefore, to set up rigid definitions and select the cases carefully. All doubtful cases were eliminated. Congenital deafness was defined as deafness which existed at birth. Adventitious deafness was defined as deafness acquired after the child had learned to speak.

The Subjects

One hundred and eighty-nine pupils, ranging from seven to nineteen years of age, were selected from the population at the New Jersey School for the Deaf. Of the one hundred and eighty-nine cases, one hundred were males and eighty-nine were females. Sixty-eight had acquired deafness and one hundred and twenty-one were congenitally deaf. One hundred and twenty-nine of the cases had resided at the school for more than four years; whereas sixty had been in residence less than four years.

Procedure

The subjects for this study were selected on the basis of whether they were congenitally or adventitiously deaf. Information regarding the type of deafness was obtained from medical history records. No cases which had doubtful records, relative to the cause of deafness, were included. For example, a number of children were reported to have become deaf as a result of a "fall" in childhood. These and all similar cases were eliminated.

The congenitally deaf cases had been so diagnosed as a result of studying the child's history; many of these cases had deaf relatives. The cases of acquired deafness had reported diseases such as meningitis, scarlet fever, and diphtheria as the cause of deafness. In each case the deafness had been acquired after the child had learned to speak.

The Grace Arthur Performance Scale of Intelligence was administered to one hundred and eighty-nine children, the total number of cases selected.

With the exception of a few cases who were too young for vocational training, three ratings were secured for each child on the Haggerty-Olson-Wickman Behavior Rating Sched-

ules. One rating was made by an academic teacher, one by a vocational teacher, and one by a housemother. Where only two ratings could be obtained, the average score of the household and academic ratings was used. One hundred and eighty-seven of the original one hundred and eighty-nine cases were rated, two having left school before the experiment was completed.

Information for the Vineland Social Maturity Scale was obtained from the housemothers for one hundred and four of the one hundred and eighty-nine cases. These cases were selected at random by pulling thirteen cards (information for each case was placed on a separate card) from each of the groups listed below.

After the original one hundred and eighty-nine cases had been selected, they were grouped according to length of residence at the school for the deaf. More than four years and less than four years residence were arbitrarily decided on as criteria. Thus, a child in the group which had been in school less than four years has been in residence four years or less; a child in the group which had been in school more than four years has been in residence from four to twelve years. This classification made eight possible groups, thirteen cases in each group; a total of one hundred and four cases.

The classification of the one hundred and eighty-nine cases was as follows:

Males

Congenitally Deaf— more than four years residence
Congenitally Deaf— less than four years residence
Adventitiously Deaf—more than four years residence
Adventitiously Deaf—less than four years residence

Females

Congenitally Deaf— more than four years residence
Congenitally Deaf— less than four years residence
Adventitiously Deaf—more than four years residence
Adventitiously Deaf—less than four years residence

Summarizing the procedure: The Grace Arthur Performance Scale was administered to one hundred and eighty-nine deaf children. Ratings on the Haggerty-Olson-Wickman Behavior Rating Schedules were obtained from one hundred and eighty-seven of the one hundred and eighty-nine cases.

The one hundred and eighty-nine cases were classified according to length of residence into eight groups. Thirteen cases were selected at random from each group, making a total of one hundred and four cases upon whom information was secured for the Vineland Social Maturity Scale.

Results and Interpretation: Intelligence

Congenitally Deaf Compared with Adventitiously Deaf. —In 1921 Reamer (5), who used the Pintner Non-Language Mental Tests, presented the results of a survey of more than two thousand deaf children. She concluded that on the average the deaf were retarded about two years in mental age.

An extensive survey of the intellectual ability of the deaf was made by Day, Fusfeld, and Pintner (1) in 1924-1925. The Pintner Non-Language Tests were used. Their conclusion is that "at all four ages; twelve, thirteen, fourteen, and fifteen, the hearing are decidedly superior to the deaf and the differences are statistically reliable."

In 1928 Drever and Collins (2) found the deaf equal to or slightly superior to the hearing on their scale of Performance Tests.

Peterson and Williams (3) in 1930 used the Goodenough Drawing Test in five schools and found a retardation of about twenty points in IQ.

Streng and Kirk (7) in 1938, studied ninety-seven deaf and hard-of-hearing children. They used the Chicago Non-Verbal Examination and the Grace Arthur Performance Scale. They found their group to be of average intelligence. The correlation between the tests was .65 $\pm$ .04.

The mean IQ's on the Grace Arthur Performance Scale for sixty-eight adventitiously deaf children and one hundred and twenty-one congenitally deaf children are presented in Table I.

The mean for the congenitally deaf is 102.5 with the SD 20.2 points. The mean for the adventitiously deaf is 101.3 with the SD 22.5. It will be seen from Table I that the difference between the means is 1.19 in favor of the congenitally deaf. The standard error of this difference is 3.19

and the critical ratio is .37. Both groups are thus found to be of average intelligence with the difference between the groups small and not statistically reliable. The congenitally deaf children are slightly less variable than the adventitiously deaf children. These results are not in agreement with those obtained by Day, Fusfeld, and Pintner (1), Peterson and Williams (3), and Reamer (5). They are in agreement with the results of Drever and Collins (2), Schick (6), and Streng and Kirk (7). Thus we find that these

TABLE I

COMPARSION OF MEAN INTELLIGENCE QUOTIENTS ON THE GRACE ARTHUR PERFORMANCE SCALE FOR CONGENITALLY AND ADVENTITIOUSLY DEAF CHILDREN

Group	N	*Mean IQ*	SD	*Mean diff*	SD *diff*	*Critical Ratio*
Congenital	121	102.5	20.2	1.19	3.19	.37
Adventitious	68	101.3	22.5			

results are in agreement with experimenters who used performance tests and the Chicago Non-Verbal Examination, but they are not in agreement with the experimenters who used the Pintner Non-Language Tests. It does not seem possible to explain this discrepancy on the basis of the difference in tests, one a performance test (concrete materials) and one a non-language pencil and paper test; for such an explanation would not account for the fact that when the Chicago Non-Verbal Examination was used, the deaf were not found to be mentally retarded. An experiment using the Pintner Non-Language Tests, the Chicago Non-Verbal Examination, and perhaps another similar test might reveal important data and perhaps serve to clarify the existing discrepancy.

A comparison of the mental ages for the congenitally and adventitiously deaf children is presented in Table II.

The mean mental age for the congenitally deaf children is 13.6 with a SD of 3.8, and that for the adventitiously deaf is 14.2 with a SD of 3.8. The difference between the means is .6 in favor of the adventitiously deaf with a stand-

ard error of the difference of .57, and a critical ratio of 1.0 which is not a statistically significant difference. Since approximately no difference existed between the groups on chronological age, this comparison is not presented here.

TABLE II

COMPARISON OF MEAN MENTAL AGES ON THE GRACE ARTHUR PERFORMANCE SCALE FOR CONGENITALLY AND ADVENTITIOUSLY DEAF CHILDREN

Group	N	*Mean* MA	SD	*Mean diff*	SD *diff*	*Critical Ratio*
Congenital	121	13.6	3.8	.6	.57	1.0
Adventitious	68	14.2	3.8			

The distribution of intelligence quotients for the two groups is presented in Figure 1 and the distribution of mental ages in Figure 2. The distribution of intelligence quotients for the congenitally deaf shows a range from forty to one hundred and seventy; for the adventitiously deaf the range is from forty to one hundred and fifty. Figure 1 shows that the curves are very similar in almost all other respects.

The range in mental age for the congenitally deaf is from six to twenty-three; for the adventitiously deaf, from five to twenty-three. As noted in Figure 2 the curves are similar.

Sex Differences.—Pintner and Paterson (4) using the symbol-digit and digit-symbol learning tests, found the "deaf boy is equal in learning ability to the deaf girl, differing in this respect from the hearing boy who falls below the hearing girl." Drever and Collins (2) found that in intelligence deaf boys were above the norms for the hearing, while deaf girls were below. Streng and Kirk (7) using the Grace Arthur Performance Scale, found boys slightly superior to girls, but the difference was not statistically significant. The critical ratios were 1.5 or less.

The results presented in Table III concerning sex differences agree with the results of Drever and Collins (2) and Streng and Kirk (7). The mean IQ on the Grace Arthur Performance Scale for the males is 105.1 with a SD of 20.7.

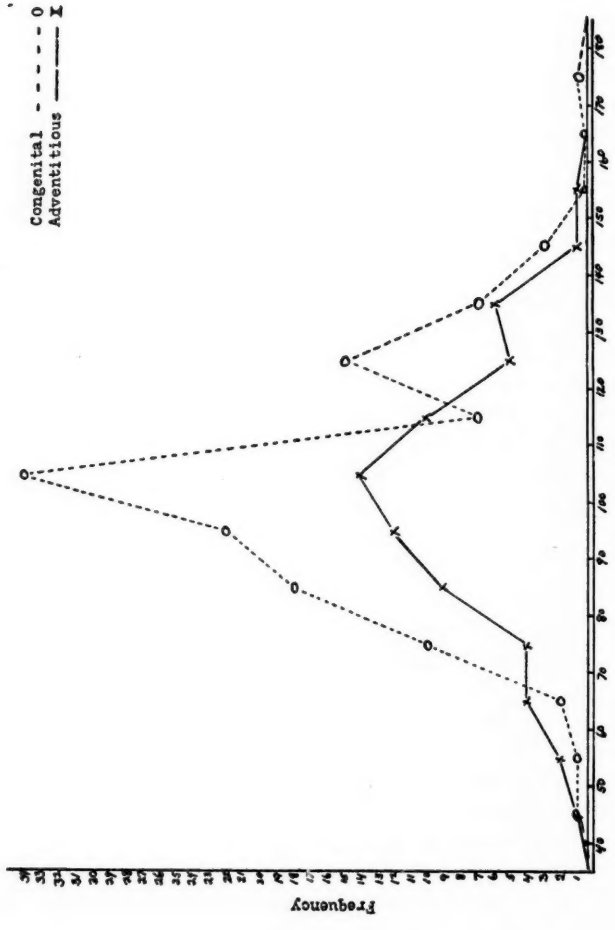

FIGURE 1
Distributions of Intelligence Quotients on the Grace Arthur Performance Scale for Congenitally and Adventitiously Deaf Children

The mean IQ for the females is 98.7 with a SD of 21.0. The difference between the means is 6.36 points in favor of the males. The standard error is 3.04 and the critical ratio is 2.09. The difference, therefore, cannot be considered statistically reliable. However, it is interesting to note that several experimenters have found deaf boys slightly superior to deaf girls on both performance and non-verbal tests. These

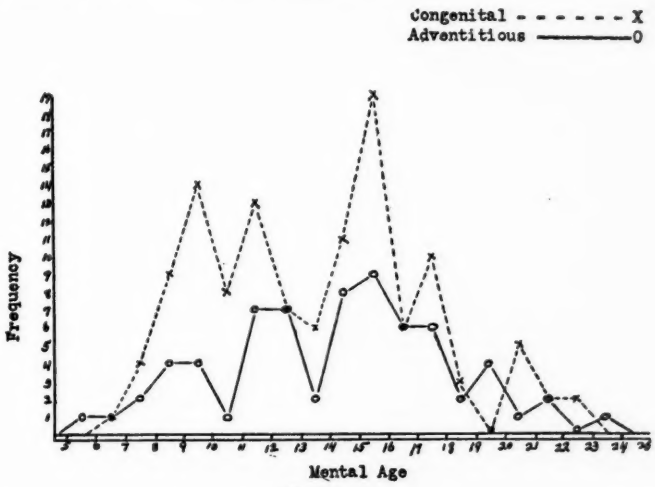

FIGURE 2

Distributions of Mental Ages on the Grace Arthur Performance Scale for Congenitally and Adventitiously Deaf Children

tests draw considerably from materials involving spatial relations, and as males seem to rate higher than females on this particular type of problem solving, it is possible that this might account for the difference.

TABLE III

COMPARISON OF MEAN INTELLIGENCE QUOTIENTS FOR DEAF MALES AND FEMALES

Group	N	*Mean* IQ	SD	*Mean diff*	SD *diff*	*Critical Ratio*
Males	100	105.1	20.7	6.36	3.04	2.09
Females	89	98.7	21.0			

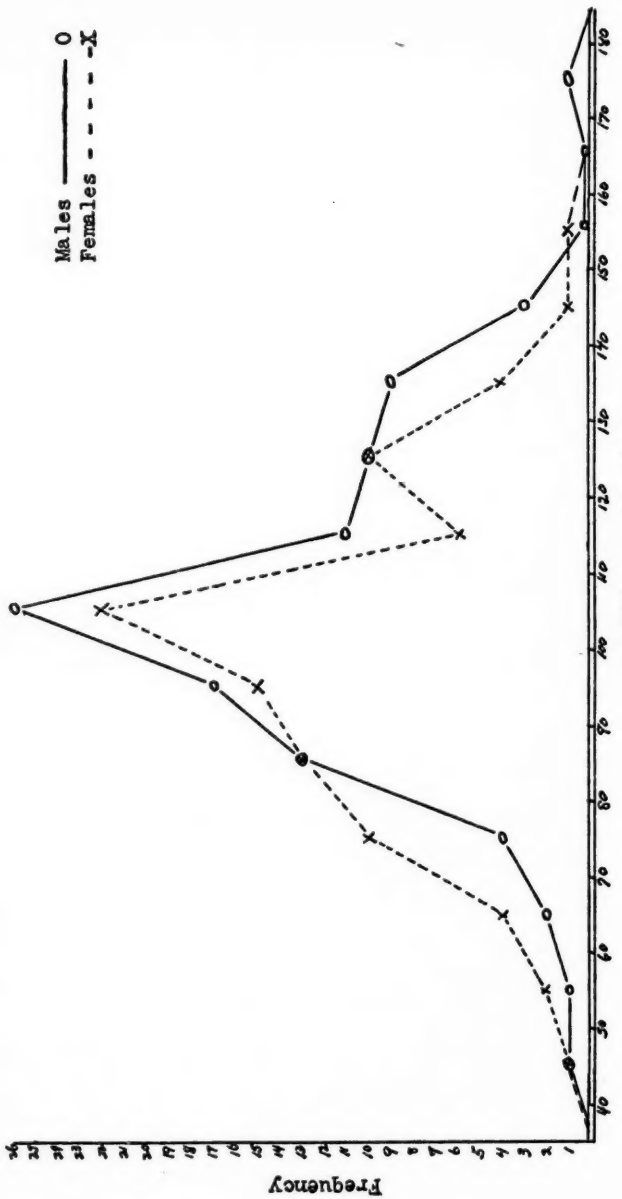

FIGURE 3
Distributions of Intelligence Quotients on the Grace Arthur Performance Scale for Deaf Males and Females

A comparison of the mean mental ages is presented in Table IV. The mean mental age for the males is 14.2 and for the females 13.3. The SD is 3.8 for both groups. The difference between the means is .92 in favor of the males, the standard error of the difference is .55, and the critical ratio is 1.6. Again the difference is not significant.

TABLE IV

COMPARISON OF MEAN MENTAL AGES FOR DEAF MALES AND FEMALES

Group	N	*Mean* MA	SD	*Mean diff*	SD *diff*	*Critical Ratio*
Males	100	14.2	3.8	.92	.55	1.6
Females	89	13.3	3.8			

The distribution of the intelligence quotients for males and females is presented in Figure 3, and the distribution of mental ages in Figure 4.

The IQ's for the males range from forty to one hundred and seventy, and the IQ's for the females range from forty to one hundred and fifty.

Figure 3 shows that the frequency curves are markedly similar. Both sexes are "grouped" around an intelligence quotient of one hundred, and the spread toward the upper and lower extremes of the distribution is practically the same.

The males range in mental age from six to twenty-three and the females from five to twenty-one. The characteristics of the curves, as shown in Figure 4, are quite similar.

Comparison of Groups of Deaf Children Who Have Been in Residence More Than Four Years and Less Than Four Years.—Several experimenters have been interested in gathering data relative to the effects of an institutional environment as compared to a home environment, Upshall (8) and Streng and Kirk (7). Conclusions made in the past have been based on comparisons between populations in residential schools and populations in day-schools.

This experiment was outlined in such a way that a comparison could be made between a group of deaf children

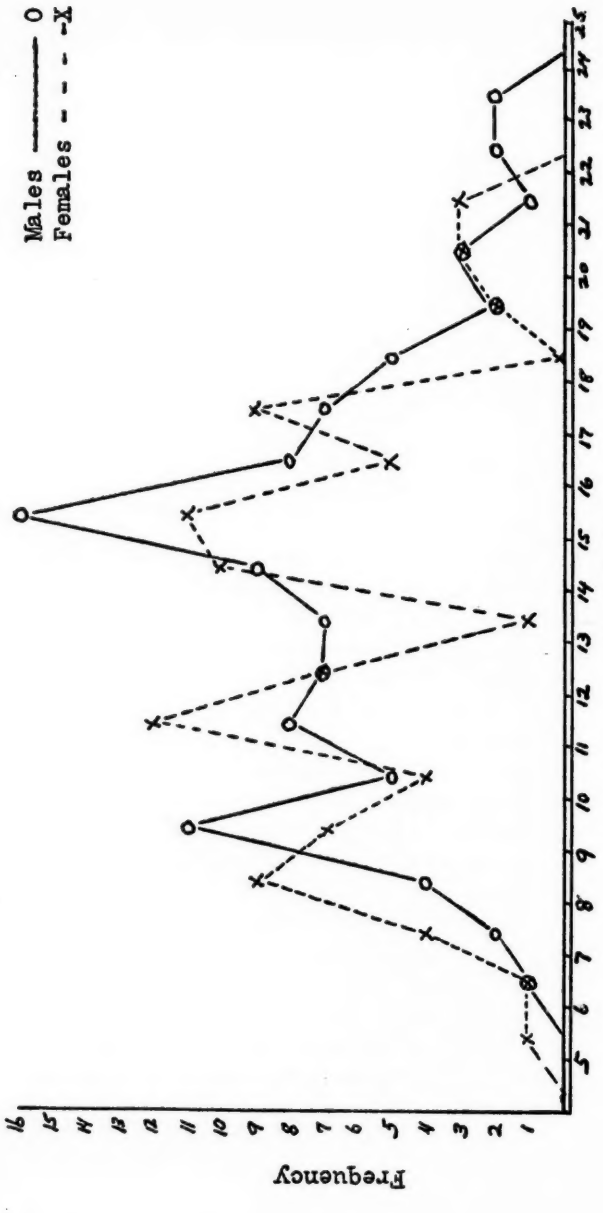

FIGURE 4
Distributions of Mental Ages on the Grace Arthur Performance Scale for Deaf Males and Females

who had resided at a residential school for less than four years and a group of deaf children who had been in residence more than four years. This comparison assumes that children who have been "institutionalized" for only four years or less would show little effects of institutionalization; whereas the children in the "more than four year" group, who have been in residence from four to twelve years, would show cumulative effects of institutionalization. Thus, this study compares children from a single school relative to the effects of institutional environment rather than populations from different schools.

Of the one hundred and eighty-nine cases studied, one hundred and twenty-nine had been in residence more than four years, and sixty had been in residence less than four years. A comparison of the mean intelligence quotients of these groups is presented in Table V.

TABLE V

COMPARISON OF IQ ON THE GRACE ARTHUR PERFORMANCE SCALE FOR GROUPS IN RESIDENCE MORE THAN FOUR AND LESS THAN FOUR YEARS

Group	N	*Mean* IQ	SD	*Mean diff*	SD *diff*	*Critical Ratio*
More than four years	129	99.2	22.2	1.54	3.00	.51
Less than four years	60	97.6	17.7			

The mean for the group in residence more than four years is 99.2 with a SD of 22.2. The group in residence less than four years has a mean of 97.6 with a SD of 17.7. Since the difference between the means is 1.54 in favor of the "more than four years" group, the standard error 3.0, and the critical ratio .51, the difference between the two groups is not statistically reliable. The group in residence more than four years is somewhat more variable than the group in residence less than four years. The greater variability of the group in residence more than four years is probably due to the presence of more over-age children in this group. On the basis of these results we may conclude

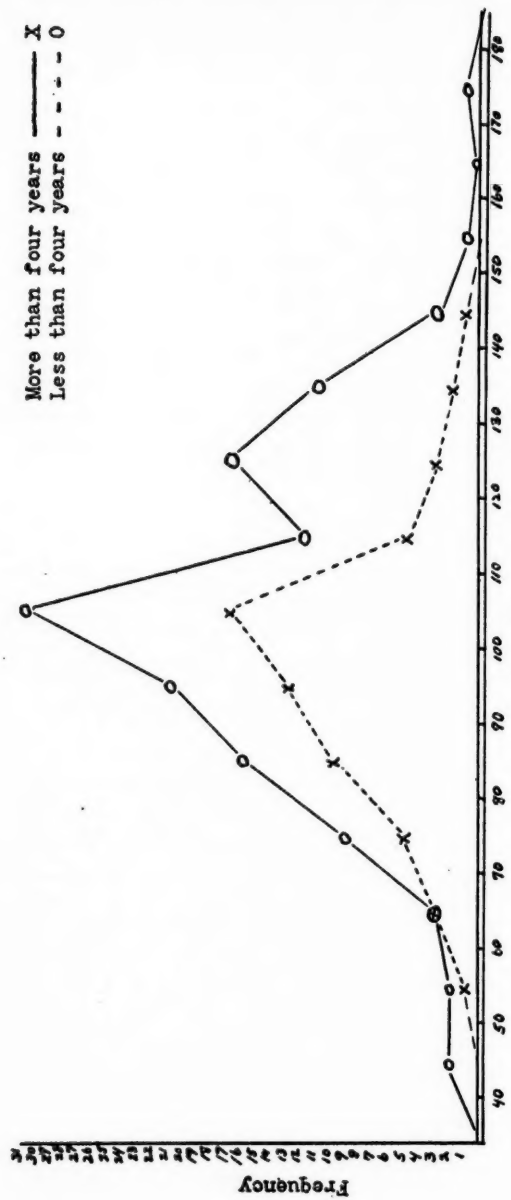

FIGURE 5

Distributions of Intelligence Quotients on the Grace Arthur Performance Scale for Children in Residence Less than Four Years and Children in Residence More than Four Years

that institutionalization had no effect on the growth of intelligence.

No table is presented for a comparison of mental ages for these groups because such a comparison would be confounded with chronological age. The group in residence more than four years is necessarily older than the group in residence less than four years. The mean mental age for the "more than four" group is 14.8 with a SD of 3.6. The mean mental age for the "less than four" group is 11.5 with a SD of 3.3

The distribution of intelligence quotients for the two groups is presented in Figure 5. The characteristics of the distributions are similar. The range of intelligence is greater for the children who have been in residence more than four years, but this may be an artifact, because there are more than twice as many cases in this group.

Summary and Conclusions

One hundred and eighty-nine children were selected from the New Jersey School for the Deaf on the basis of type of deafness. Of this number one hundred and twenty-one were congenitally deaf and sixty-eight were adventitiously deaf. The Grace Arthur Performance Scale of Intelligence was administered and the results obtained for the congenitally deaf were compared with those for the adventitiously deaf. Both groups were found to be of average intelligence, and the difference between the groups was not statistically significant.

Deaf boys tended to rate slightly superior in intelligence to deaf girls. However, the difference is not statistically reliable.

There is not a statistically significant difference between the groups who have been in residence more than four years and less than four years. This fact seems to indicate that institutionalization has little or no effect on growth of intelligence.

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(To be continued)

Report of a Hearing Survey Project[1]

WISCONSIN WORK PROJECTS ADMINISTRATION
JUNE 1941

INTRODUCTION

THIS REPORT is designed to present to the reader a brief description of the aims, operation, and results of the Hearing Survey Project that has been carried on in Wisconsin for over two years.

It is the writer's desire that the reader keep three points in mind. They are:

1. Undoubtedly, two of the most important phases of such a program are Educational and Medical.
2. The successful operation of this program has been due, in addition to careful and accurate testing, to the intelligent interest, wise direction and excellent co-operation of the official sponsors, the Wisconsin State Medical Society, the Advisory Committee on Hearing and Visual Defects of the State Medical Society, and the co-operating county and municipal organizations.
3. A minimum amount of statistics has been included, since the importance of this program is centered in the follow-up work and the results.

This report would not have been possible had it not been for Doctor Robert West's sections on Recommendation or Classification of Cases and Digest of the Otological Reports.

The writer wishes to express his appreciation to Mr. Frank V. Powell, director, Bureau for Handicapped Children, Wisconsin State Department of Public Instruction, for his criticisms and guiding hand, and to Miss Loraine V. Anson, survey field supervisor, for her assistance in collecting data for this report.

JOSEPH ROHR, JR.
State Supervisor, W.P.A.
In Charge, Hearing Survey Project

[1]Sponsored by the State Department of Public Instruction, the University of Wisconsin, and the State Board of Health, in co-operation with the Wisconsin Medical Society.

It is understood, of course, that space does not permit a complete discussion of the many phases of this progressive program, but only a brief summary of the points that should prove interesting to the medical and educational professions.

Before the Testing Starts.—In order to stimulate an understanding of the survey and a follow-up program after the results of the survey have been completed, the following activities of the survey supervisor preceded the actual testing:

1. Meeting with the city superintendent and principals of schools
2. Meeting with the city health department
3. Faculty meeting at each school
4. Meeting with parent teacher's association of each school
5. Meeting with civic organizations of the city
6. Explanation of operations of survey to otologists of city
7. Interview with press so that news items may follow progress of survey

The Testing Program.—To screen out children with apparently normal hearing rapidly, the testing in each school began with the administration of group tests given on a phonograph group audiometer. During the operations of the survey in 1939-1940, it was noted that the number record that has been employed for the group tests is not entirely reliable and that many children with hearing losses, especially in the high ranges, could pass the number test with ease. This year, 1940-1941, a second record was added to the group test, so that a child had to pass two tests in the screening method instead of one. The second record employed is the Sonotone Group Audiometer record which consists of tones corresponding to the tones on the individual audiometer. The child counts the number of times he thinks he hears the tone—one, two, or three times, and then writes his answer in the particular square on his paper. The tones fade as the numbers fade. The result of this year's

work has shown that the sound record is a much better screen for high frequency losses than the number test and picks up about twice as many high frequency hearing impairment cases. It is not certain that these additional cases picked up by the Sonotone test are cases of concern to the otologist, but they may have educational significance. It can only be asserted that the Sonotone tests is a method of discovering functional deficiencies.

Children who did not pass the first group test were given an identical retest to eliminate the influence of such factors as nervousness, noise disturbances, and newness of the test.

All children who did not pass the second group test were given a third test on a pure-tone individual audiometer.[2] The audiometric readings of all children taking this third test were then routed to Madison for computation, conversion and finally analysis and recommendation by Dr. Robert West, professor of speech pathology and director of the Speech Clinic, University of Wisconsin. Standard Western Electric methods were used in the computation and conversion steps

Recommendation or Classification of Cases.—The procedure of referral and recommendation for the children who failed the group tests, as used by the examiner (Dr. West) was as follows:

1. After the computation and conversion work had been done, the papers were then taken to the desk of the University Sponsor (examiner) for recommendation and referral. To each report was appended the original group test report (or reports, if more than one group test was given). The examiner then classified the children into three groups, called Number Ones, Number Twos, and Number Threes. We shall discuss them here in reverse order, beginning with the children showing the least loss. Many factors were taken into account in making these classifications: Age of the child, his success in school, the consistency of his losses on the vari-

[2] Seven frequencies (128 through 8192) are used.

ous frequencies, the conditions under which the test was taken, the agreement (or disagreement) between the group test and the individual test, the particular ranges where the losses appeared, and the average percentage of loss. Insofar as it is possible to state definite principles of classification, the following definitions should be noted:

Number Threes included:

A. Every child whose report showed no losses greater than 15 decibels.
B. Every child whose report showed not more than one loss of 20 decibels.
C. Every child whose report showed not more than two losses of 20 decibels, provided these were in opposite ears.
D. Every child of seven years or younger whose report showed no losses greater than 20 decibels.
E. Every child of seven years or younger whose report showed not more than one loss of 25 decibels.
F. Every child of seven years or younger whose report showed not more than two losses of 25 decibels, provided these losses were in opposite ears.

Number Twos included:

A. Every child above seven years who would be classified as a Number Three except for the presence of two 20-decibel losses in one ear.
B. Every child above seven years who would be classified as a Number Three except for the presence of four 20-decibel losses, two in each ear.
C. Every child of seven years or younger who would be classified as a Number Three except for the presence of two 25-decibel losses in one ear.
D. Every child of seven years or younger who would be classified as Number Three except

for the presence of four 25-decibel losses, two in each ear.

Number Ones included:

A. All others.

Number Threes were considered normal; Number Twos were marked "retest in six months"; Number Ones were marked "referred to the otologist." Thus, in addition to the children showing serious general losses of auditory acuity, many a child was referred to the otologist who showed an inconsiderable average percentage of loss, but whose report showed a narrow island of reduced acuity, and also many a child who, having normal hearing in one ear, was not seriously impaired in comprehension of the speech of his conversational associates.

Routing of Forms.—After the children were classified, the report for each Number One was converted into an audiogram showing three curves: That for the hearing of the right ear, that for the hearing of the left ear, and that for the hearing of the "composite better" ear, made up of the better rating for each of the seven frequencies tested. This audiogram was sent to the school health authorities with copies to be forwarded to the parents and family physician or specialist when the child concerned was referred for medical advice.

The disposition of the Health Department audiogram was left to the local school authorities. In most cases in the counties tested the school supervisors or administrators have either taken the information off those forms or requested them for their own educational records.

Follow-Up.—Naturally, a hearing survey is worthless, from the medical viewpoint, unless definite medical steps follow the operation of the survey. It is equally worthless from an educational standpoint if educational steps do not follow. Such work is the responsibility of the locality in which the survey operated. Since the city of La Crosse (which has had sufficient time to start a follow-up program) has carried on an excellent follow-up educational and medical program, Miss Josephine Hintgen, city grade super-

visor, was asked to supply the reasons for children not being examined by their family physician or specialist. They are:

1. Parents thought hearing had improved.
2. Parents thought loss due to cold.
3. Parents thought loss not serious enough or not present. (Greatest number.)
4. Financial.
   (City Health Department had checked all such cases and informed parents their children would be examined free of charge or at a very nominal cost.)
5. Lack of interest and indifference.
   (In some cases probably related to point 3 or 4.)

In addition, the following "Values of the Survey" and "Hearing Program for the year 1941-1942" are closely related to a follow-up program.

Values of the Survey to La Crosse.—

1. Teachers more conscious of importance of normal hearing.
2. City school system has purchased an audiometer to do periodic testing and retesting.
3. Lip-reading lessons now being given to children who otherwise might never have received such training.
4. Formulation and organization of a more consistent and continuous program for the detection of hearing difficulties.
5. Formulation and organization of a definite plan of education for children with serious losses.
6. Rechecking of operative and hygiene cases.
7. More systematic and complete medical referral techniques.
8. Better mental and social adjustment of lip-reading cases.
9. Classroom adjustment in normal hearing classes.
10. Parents have better understanding of adjustment needed.

Hearing Program for the Year 1941-1942.—

1. A plan for reaching all cases:
   A. Co-operative work of parent, teacher, principal, nurse, speech teacher, teacher of hard of hearing, and the specialist in the finding, testing, and diagnosis of hearing defects.
   B. Retesting with the audiometer of all children recommended by survey of 1939-1940.
   C. A series of tests with the audiometer of children listed under A; all kindergarten children; and children new to the La Crosse public school system.
2. Educational program
   A. Parents (Individual Conferences and Home Visitations) Arouse interest of parents to send child to specialist for diagnosis and corrective measures.
   B. Arouse interest of parents in the understanding and value of lip-reading and other remedial measures although the loss of hearing may not be great.
3. Medical association.
   A. Information on the educational program which the school has for children with hearing difficulties.
   B. Desire of the school to co-operate with the members of the medical association to give aid to all children needing special help.
4. An educational program for every child with hearing deficiency.
   A. Transfer to a hard-of-hearing and deaf class to be determined by at least three people, one of whom would always be the releasing principal or teacher, the others to be selected from the person who gave the test, the nurse, the physician, the recieving teacher, and the parents.
   B. Lip-reading class for those with minor hearing loss.
   C. Special adjustments within the regular classroom.
   D. "Child Welfare Survey."
      (1) Physical
      (2) Emotional
      (3) Mental

(4) Social
(5) Educational

At this time it would be well to state that both the city of Wausau and the county of Marathon, which were recently surveyed, are making plans for an intensive follow-up program during the coming school year.

Facts and Observations.—Since its inception the survey has tested a total of 37,815 school children and of that number 11.12% were referred for medical examination, together with 1.45% additional impaired (high frequency) cases discovered by the use of the Sonotone Screen.

A breakdown of the total number of school children tested shows that 22,639 were from larger (village and city) school systems, 6,386 from parochial schools and 8,790 from small rural schools. Of the larger systems, 12.01% were referred for medical examination; of the parochial schools 10.84% were referred; and of the small rural schools 15.27% were referred. These percentages include referrals resulting from the additional Sonotone high frequency test. The Sonotone test "weeds out" many cases deficient in perception of high frequencies which would successfully pass a W.E. number test which in turn does not put a premium on high frequency perception.

The greatest number of referred cases falls at the age levels of 8, 9, and 10 with a gradual decrease to both sides.

A study of referred cases based upon tests given to 23,453 children show that 6.2% are males and 3.9% are females.

Questionnaires.—In Marathon County the Wausau School System and the County Health Unit co-operate in sending out questions to the parents of referred children, asking if they planned to carry out the recommendation, and if not to state their reason for refusing. On the basis of questionnaires sent out, the following information was compiled:

	Wausau	*Marathon County (Excluding Wausau)*
Reported previous medical attention..	7%	2%
Stated they will have medical attention	16%	11%
Will not have medical attention	34%	18%
Financially unable	11%	9%
Not necessary	23%	9%

Digest of the Otological Reports

After the otologist had seen each child, he made a report to the sponsor as to his findings. The following is a summary of 176 cases "Referred to the otologist" for whom medical returns are available, 94 cases from La Crosse County and 82 from Marathon County:

	La Crosse	Marathon
Average percentage loss in right ears	20.00	18.70
Average percentage loss in left ears	18.70	18.80
Average of the greatest loss in each right ear	34.08	33.60
Average of the greatest loss in each left ear	33.40	33.00

Note: The "ears" that showed normal hearing were omitted from these summaries; *i.e.*, if a child was referred to the otologist for a study of both ears, both of his ears were included in the summary, but if he was referred for a study of only one of his ears, the other ear was omitted from the figures in the above table.

One of the interesting considerations of the survey has been the difference in findings as to the amount of loss between that reported by the field testers and that found by the otologists who rechecked cases referred to them. In 34 out of 82 Marathon County reports returned from the otologists, and in 42 out of 94 returns from La Crosse County, it was indicated that the physicians found normal hearing where the field testers found significant losses. The analysis of the papers reveals that these discrepancies were due to six factors:

1. Not all of the otologists reported their audiometric findings. Several of them, however, who did report audiometric findings had used instruments different from those employed in the field. It is a well-known fact that the calibrations of the several standard instruments employed in audiometry vary markedly. When cases referred to the otologists were at, or slightly below, the border line of significant loss as tested on the 2-A audiometer, the instruments used by the otologists sometimes threw the rating over onto the normal side of the border line.

2. Some of the otologists use formulae for computing hearing losses that do not cover the entire range employed in the field. Thus, frequencies that were taken by the field testers and found low in given cases were not discovered and taken into consideration by the otologists who rechecked the case.
3. There were many differences in the testing conditions that gave significant differences in results. Often the schoolroom in which the first testing was done was noisier than the room in which the doctor's recheck was performed. The method of using the interrupter in checking the response of the child tested was not always the same in the doctor's office as was the procedure in the field.
4. In a considerable number of cases the doctor reported his opinion that, at the time of the first test, the child had suffered some temporary impairment of hearing due to what many of them refer to as "a cold." Undoubtedly, this factor was operative in many cases in which the physician did not report it, or in which he was unable to judge as to the conditions of the pharyngo-auditory tract at the time of the field test.
5. Perhaps the most important of all of the factors responsible for these discrepancies is that when going over the papers to refer the children to the otologist the examiner not only took into consideration the over-all percentage of loss for speech, but also the relatively narrow valleys in the audiogram. Many children were referred to the otologist whose audiograms revealed that undoubtedly there was little, if any, actual impairment of hearing for practical speech, but who seemed to have sharp drops in acuity at various points in the range. If, for example, there was a drop at 1024, with a normal audiogram for the rest of the range, the child would be able to compensate for the loss of acuity at 1024; but he was referred to the otologist for a check on this frequency, with the thought in mind that the loss here might be the forerunner of a more severe loss in adjacent frequencies. Similarly, if a child's audiogram showed normal hearing up to 4000 with a sharp

dip at 8000, he was referred to the otologist, in spite of the fact that undoubtedly his hearing had not been materially affected, on the theory that such a loss might possibly indicate a gradual reduction of acuity of hearing beginning insidiously in the high frequencies and progressing into the lower range. Dips at the pitch of 128 were similarly treated. The rationale of our referral of cases of this sort was that we were concerned not only with reporting hearing losses, but also with detecting hearing phenomena that might prove on otological check to be symptoms of pathology.

6. A sixth reason for these discrepancies between the findings in the field and those in the doctor's office was that, in any case of doubt as to whether or not a referral should be made to the otologist, the examiner choose to err on the side of sending to the otologist a child who did not need his services rather than on the side of treating as normal a child who might need them and who, if he is to profit from such services, should have them when the initial signs of trouble appear.

The extent of these discrepancies between the findings in the field and the findings in the offices of the otologists is shown in Tables I and II. Table I shows the percentage of loss of the *average case referred* to the physician and found normal otologically. It is, perhaps, significant that this loss is in every instance on the border line between normal and subnormal hearing. Table II shows, not the general percentages of loss in these cases in which discrepancies were found between the findings in the field and then in the doctor's office, but the average of the greatest losses, ear by ear, recorded when the cases were tested in the field, regardless of where in the frequency range these losses were found. The report for each ear was examined and the point of greatest decibel loss was noted. This loss in decibels was converted into percentage of loss. These percentages were found to average about 30%. This figure may well be taken as an index of the extent to which a single frequency may be impaired without alarming the otologist.

TABLE I

Cases in Which the Otologist Reported "No Loss"

	La Crosse County	*Marathon County*
Average right ear, loss in percentage	14.29	13.50
Average left ear, loss in percentage	15.67	15.90

TABLE II

Cases in Which the Otologist Reported "No Loss"

	La Crosse County	*Marathon County*
Average of the greatest losses in each right ear in percentages	28.00	29.50
Average of the greatest losses in each left ear in percentages	33.69	27.15

In the classification of the causes of deficiencies of hearing as reported to Dr. West by the otologists, the former was hampered by the lack of uniformity in the interpretation of the otological report blanks. Some physicians made actual diagnoses; some merely reported conditions that they found, without venturing a guess as to the diagnosis. Some apparently considered that the statement "conduction deafness" was a diagnostic finding; whereas others would attempt to trace the conduction deafness to its basic cause. Because of this inconsistency in the terminology and ideology used in the reports, he could not make entirely satisfactory categories of the etiologies of these cases. Admittedly, there is a great deal of overlapping when the physician reports a "scarred drum membrane" and also suggests that the scar is due to a "previous otitis media" and then refers to the deafness as of "the conduction type." Such a case was checked under all three of the categories: Abnormality of the Membrana Tympani; Otitis Media; Conduction Deafness. Dr. West had to list such a case in all three classifications, because he felt reasonably sure from the reports he had before him that different otologists might

have classified similar cases under any one of these three heads without mentioning the other two. These difficulties in interpretation of the otological blanks should be taken into account by those who review the following summaries:

SUMMARY OF OTOLOGICAL RETURNS FROM TWO COUNTIES

	La Crosse (94 returns)	Marathon (82 returns)
Blanks adequately filled out	57.5%	30.5%
Blanks inadequately filled out	42.5%	69.5%
Cases marked "no loss"	44.7%	41.5%
Cases found defective by the otologist	55.3%	58.5%

	La Crosse		Marathon	
Pathologies Mentioned	Right	Left	Right	Left
1. Specific fever	1	0	0	0
2. Otitis media	32	35	12	13
3. Pharyngitic and other causes of tubal involvement	14.4	20	6	6
4. Tonsils and adenoids	31	32	14	13
5. Stoppage of external meatus	12	13	7	8
6. Abnormality of membrana tympani	23	17	55	56
7. Otosclerosis	1	0	0	0
8. Mastoiditis	4	1	3	3
9. Nerve deafness	1	2	8	11
10. Conductive deafness	56	55	50	50
11. Dietary deficiency	0	0	1	3
12. Pathology unstated	5	6	6	6

NOTE: These figures are all in percentages to enable the reader to make comparisons between the counties. The summaries of pathologies are recorded by separate ears, since in many cases one ear was obviously sound, as shown by all tests. The differences between the counties in items 2, 4, and 6 are interesting in the face of the striking agreement between the two counties as to the percentages found defective.

SUMMATION

The values of a hearing survey can not be measured in terms of children tested, but only in terms of what has resulted from the operation of the survey—educationally and medically. The following are the aims of this Hearing Testing Program and it is felt that they include all of the results upon which such a survey should be evaluated:

1. Individual and Community Education
2. Medical Attention
3. Educational and Social Adjustment
4. Research on Testing Techniques

Not all of these aims can be achieved during the life of the survey, but it is felt that this program will have done much toward achieving them, and that some day other agencies will carry on what the survey has started.

APPENDIX

I

INDIVIDUAL HEARING TEST AUDIOGRAM CHART

Date .....

Sex .....

Name ..... Race .....
(First name) (Last name)

Date of Birth ..... Grade in School .....

"Head Cold" (when)? .....Hay Fever? .....

Name of School .....

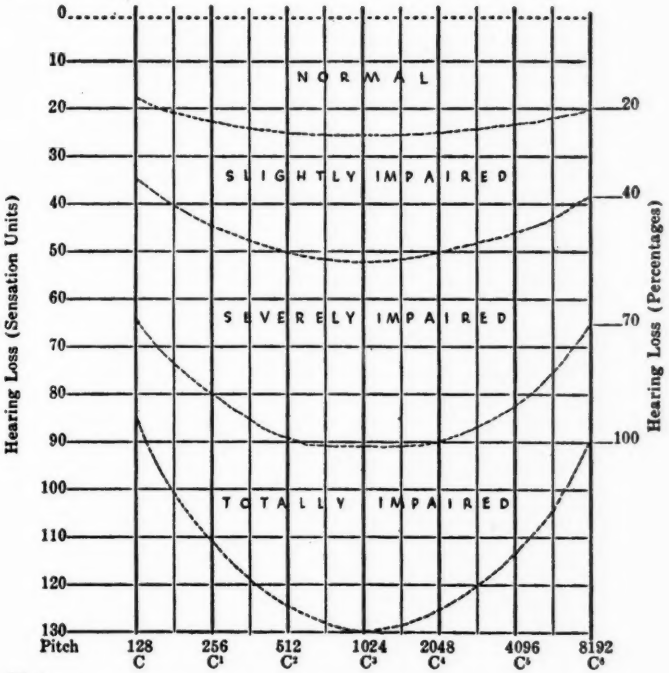
Home Address .....
(Street) (City)

Parent's Name .....

Examiner .....

Remarks .....

Normal hearing



Note—
Black line—Right ear.
Blue line—Left ear.
Red line—Composite "better" ear.
Original individual test given on W. E. 2-A.

The above classification was set up by a committee which included Dr. West, Mr. Rohr and Mr. V. A. Becker, principal in the Wisconsin School for the Deaf

II

INDIVIDUAL HEARING TEST

Date .....

Name .....Sex .....
(First name) (Last name)

Race .....

Date of Birth .....Grade in School .....

"Head Cold" (when)? .....Hay Fever? .....

Name of School .....

Home Address .....
(Street) (City)

Parent's Name .....

Examiner .....

Frequencies tested	Loss in Sensation Units		Percentage of Loss	
	Right	Left	Right	Left
128				
256				
512				
1024				
2048				
4096				
8192				

Remarks .....(Total)

Percentage of hearing loss for speech .....

Recommendations:

Endorsed by the Committee of Hearing and Visual Defects of the State Medical Society of Wisconsin.

Approved by the Wisconsin State Board of Health.

III

OTOLOGIST'S REPORT

Name .....Address .....

School .....Grade .... Date of Birth ..... Sex ....

Race .....

Deafness in Family .....

History of Ear Condition .....

.....Age at which deafness occurred .....

Has Patient had Scarlet Fever? .....Diphtheria? .... Measles? ....

Infantile Paralysis or Encephalitis? .....Meningitis?.....

Other diseases deemed significant .....

Frequency of "Head Colds" .....Mentality .....

Tonsils and Adenoids .....Sinusitis .....

General Health .....

EXAMINATION

	Right Ear	Left Ear
Discharge	.....	.....
Memb. Tympani	.....	.....

Individual Hearing Test

Audiometer Type ..... Make .....

Frequencies tested	Loss in Sensation Units		Percentage of Loss	
	Right	Left	Right	Left
128				
256				
512				
1024				
2048				
4096				
8192				
11584				

Differential Diagnosis (for the ears separately, if the conditions are different) .....

.....

.....

Nerve .....Mixed .....

Prognosis: Stationary .....Will Improve .....

Progressive .....

Corrective Advice .....

.....

Date of Examination .....Examiner ....., M.D.

Address .....

.....

Endorsed by the Committee on Hearing and Visual Defects of the State Medical Society of Wisconsin.
Approved by the Wisconsin State Board of Health.

Research Possibilities with the Deaf

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RECENT concepts, which have been gaining ground in the field of psychology in the last few decades, have contributed to a deeper insight into the nature of the deaf person's personality, and at the same time have laid bare a number of new problems. Association-psychological opinions on central disturbances of speech have in the course of time lost some of their significance and part of their adherents and given way to Gestalt-psychological theories. More and more the well-known aphasia ideas, which at the outset seemed a useful working hypothesis and a valuable asset in teaching, have proved to be unsatisfactory. It became clear that the problem of aphasia could not be explained with the help of simple diagrams. The psychological study of aphasia disclosed an increasing number of phenomena which did not allow of an associational-psychological explanation. About 1906 Marie and his collaborators were able to point out that, besides the well-known disturbances, there was as a rule in cases of aphasia the constant occurrence of barely perceptible but for the patient very important psychic aberrations. In recent years Marie's theories were confirmed by Goldstein's investigations, the latter strongly emphasizing the "Ganzheits"—disturbance in the different cerebral lesions and especially so in the case of aphasia. He was able to demonstrate that the brain always functions as one connected entity, although for the sake of localization it is divided into numerous centers. The dogma of localization, bound up with associational psychology as it is, had to be extended into a theory that represented the brain as a much more coherent entity. The mosaic structure, although it should not be entirely rejected—at least no more than the association theory, could no longer be maintained in its original form through the advance of philosophical-psychological investigations.

These opinions lead to the conclusion that in the case of

general brain lesions there is no question of the disappearance of one function, but that we should imagine as it were a newly functioning organism which comes into being after the lesion of the originally intact brain has occurred. This new, lower organism adjusts itself in a different, simpler and more primitive way to the outer world than at the time when it was still fully intact. In his book *Der Aufbau des Organismus,* Goldstein worked out these theories in greater detail. Although applicable to the entire functioning organism, his theory has its validity especially in connection with the brain, which is a coherent network showing, in case of lesion, in addition to the directly local phenomena, very many "Ganzheits" disturbances. These are sometimes imperceptible to others and not even conscious in the patient, but yet in methodical exploration they will not be overlooked. Other investigators, such as Bouman and Grünbaum, Van Woerkom, came to analogous conclusions, whereas Weisenburg and McBride and many other writers could agree only in part with these theories.

At any rate, the modern psychological theories of aphasia, based upon association and "Gestalt" concepts, make it clear that the subject who suffers, *i.e.,* from motor aphasia, is not simply a normal individual without speech. This fundamental principle has in late years been utilized to gain understanding of other diseases. In the study of the psychology of the deaf person the opinion gained ground that the individual cannot be regarded simply as a normal person deprived of his hearing only. Thus Isserlin points out that we here meet with a new totality. We are unable to make out in every special case whether the total psychic structure has its cause in the defective development of the deaf person through the loss of hearing from early childhood, or whether an inferior psychic make-up is co-existent with the deafness from the outset. A third possibility would be that the brain has been injured in different places by some other destructive process. So much is certain, that the totality of the deaf child differs widely from that of the hearing child and this new totality is an interesting object for extensive investigation. A better acquaintance with the psyche of the deaf child

may lead to deeper insight into the nature of his disturbance, and make clear to us the influence of elementary psychological factors on the development of this psyche. In connection with the investigations into the psychology of the deaf at Clarke School for the Deaf in Northampton, Eberhardt points out that the deaf-born child or the child with deafness acquired in its first years enables the interested psychologist to study with nature's help the special influence the loss of an organ of sense, as that of hearing, has had on the further development of the child. Moreover a detailed psychological investigation will show whether from the psychological image different forms of deaf-mutism can really be distinguished. In practice such a distinction and the fuller knowledge of every individual case it entails, will be able to yield important data for educational and later on for vocational purposes.

The first necessity in a psychological examination of the deaf child is that we consider the classification of the forms for the sake of differentiation in the data. It will hardly be possible to arrive at a general opinion if we omit making these distinctions.

The field of our investigation shows the following forms:

1. *Hereditary forms*

a) genuine deaf-mutism (disturbance in the development of the internal ear)
b) hereditary genuine deaf-mutism together with other defects of the central nervous system and debility
c) hereditary deaf-mutism through hereditary malformation of the brain
d) hereditary organic inferiority in which a slight injury of the already defective auditory apparatus leads to deafness, eventually to mutism

2. *Acquired forms*

a) antenatal origin
b) having its origin in birth trauma
c) acquired in early childhood or youth in consequence of an accident, meningitis, infant diseases.

In these last cases the auditory organ may have suffered peripheral or central lesions, or both together, and these again can be accompanied by other, sometimes important, disturbances. We need only mention blindness, loss of function of other nerves and cerebral lesions. And the psychic factor that is inseparably connected with all these cases plays an important part. This psychic factor varies with the organic disturbances.

Moreover the period when the deafness sets in is of great moment to further psychic development. In early childhood each year is so important to mental growth that we may expect profounder differences of mental development in the deaf-born child than in one who became deaf in his fifth year. Although we know that the speech already acquired at that age is lost again, we cannot but accept that the then existing general mental development will be preserved. There are a number of experiences, images and other elements of consciousness stored in the unconscious which we may not neglect in our considerations, even though we do not know their exact value. Furthermore, one who became deaf as an infant will later on accept the fact of his deafness as natural, whilst the deaf child who became deaf at an age when he could express himself pretty well in speech and had arrived at a certain degree of understanding will have to adapt himself in a very different way to his loss of hearing. In this latter case neurotic mechanisms may develop.

If we examine more closely the development indicated above, we see that generalization must inevitably lead to false conclusions. Psychological deductions in this field of research only then allow of mutual comparison and have lasting value if the material investigated is homogeneous. The writer has vainly sought in literature for an investigation that fulfilled this requirement of homogeneity. Only when such an investigation will have been made shall we be able to draw conclusions of a general character, and special conclusions with respect to the group investigated will allow of comparison with conclusions concerning others. Now an accurate otological, neurological, psychological and genetic diagnosis is very often not easy to make, but if it is neglected there is the risk of confusion. An instance where

such confusion is likely to arise is the syndrome of "surdo-mutitas corticalis" introduced by Bárczi and Ranschburg.[1] It is indistinct, not clearly circumscribed and indicates a mixture of different affections that are denoted by the common name "deaf-mutism." The essential point is that a cortical lesion must exist, or at least is presupposed. In this syndrome, as in aphasia, subtle disturbances in the brain function must be demonstrable, and until now—as far as the writer knows—this has not been proved. Cases of such forms of deaf-mutism as this syndrome of Bárczi are indeed very misleading, because they combine transition forms from deaf-mutism to hearing-mutism. The latter now and then offers problems analogous to those of the former but in our investigation we should clearly distinguish the one from the other. The possibilities and difficulties we find in our way in the case of hearing-mutism we may see from the following division, made by Seemann:

1. *Cerebral cortex not intact*

a) sensory hearing-mutism
b) sensory infantile mutism
c) congenital aphasia
d) motor hearing-mutism
e) cortical deafness

Causes: Organic inferiority of the auditory centers, hemorrhages during birth, *i.e.* through forcipal extraction, inflammation, syphilis, encephalitis.

2. *Cerebellum not intact*

a) syndrome of Seemann (disturbance of the muscular coordination of the phonation organs)
b) motor hearing-mutism
Causes: hemorrhages, congenital defects

3. *Psychic inhibitions*

a) inferior psychic disposition
b) psychasthenia
c) combination of neurosis with intellectual defects

[1] See ANNALS, November, 1938 (vol. 83, no. 5), pp. 386-402.

Each of these forms has its psychological peculiarities and it may happen that for years it is looked upon as a case of genuine deaf-mutism, until investigation or the course of development ultimately clears up the case.

In connection with the complex character of the subject matter and of those points we wish to investigate, we shall have to extend our investigations to different, more or less complicated, psychic functions. We purpose to make an investigation along the following lines:

It is of primary importance to get an insight into the *intelligence*. If the deafness is accompanied by cerebral lesions, as in hereditary degenerative forms and in some acquired traumatic and infectious cases, we may expect an occasional occurrence of dementia debility or decrease in intelligence. In those cases of deaf-mutism where the internal ear or the auditory nerve has been injured and there is no brain lesion, there are the following problems with respect to the intelligence. In the first place it might be possible that in hereditary genuine deaf-mutism there is already *a priori* a greater frequency of an inferior mental disposition. In the second place the disposition might be quite normal, but the deafness the cause of an impaired intellectual development. The influence of the loss of hearing and speech with the consequent dearth in verbal engrammata must lead to a more concrete form of thought. The habitual exercise of transposing abstract notions into speech symbols in the spoken language is reduced and this may probably lead to a deterioration of intellectual development. Although the deaf person in digital speech has at his disposition other symbols which play the same part as the symbols of speech, this compensation of the specific functions required by oral speech remains nevertheless insufficient. The heard and the spoken language is always very much richer in abstractions than the language of gestures. The spoken word with its accent, intonation, sound and personal enunciation is rich in shades, brings great multiplicity of elements of consciousness, stimulates the process of thinking and provides much greater exercise of the whole intellectual sphere than the visualized image or the simple gesture, or finger word. The

lack of hearing and speech may on these grounds impede the development of the psychic intellectual life of the deaf child or at best retard it in comparison with other people, unless a more-than-normal giftedness furthers the course of development also here. In order to substantiate these theories one should have to examine a large group of hereditary deaf persons without cerebral lesions and compare them to as large a group of forms also without brain lesions, acquired in very early years.

In the latter case it would be most adequate to examine children who became deaf owing to scarlet fever, measles or other non-cerebral causes. If these two groups yield no evident differences at the psychological examination, but show inferiority to the children of normal hearing, we may assume that indeed the deafness may be the primary cause of a psychic or intellectual difference. However, this factor may be neglected or considered unimportant if moreover the score of the person with acquired deafness equals in intelligence tests that of the hearing group. If the one with hereditary deafness scores less than the one with acquired deafness, we may have a case of co-existing congenital inferior disposition or of cerebral defects.

The author, together with J. J. van der Kolk, has tested 100 hearing and 100 hereditarily deaf children in the psychological laboratory of the Rotterdam Institute for the Deaf. This investigation made it clear to us, that there exists an intellectual backwardness of the group of the hereditarily deaf compared to the group of hearing children, originating from the same milieu. In this investigation, undertaken for the purpose of orientation, we made use of the maze test of Porteus. We selected this test because purely verbal tests were excluded in a comparative examination of deaf and hearing children. Afterwards we applied the test series of Drever and Collins. But ultimately a pure performance test also proved unsatisfacory, because it leads to a one-sided opinion on the intelligence. Only the test of Pintner and Cunningham was very acceptable in the examination of younger deaf children. If however one desires to compare the deaf of a higher age to hearing people, one

cannot do so without investigations into the intellect that go deeper than most of the performance tests known to us, although the latter are very often not without practical value.

For all these reasons we composed a set of tests which could yield a better insight into the intellectual function of the deaf child. We carefully introduced alongside the performance tests verbal elements that may no longer offer difficulties at a certain age, if at least the child had regularly attended school and thus acquired a certain vocabulary. We thought fit to make use for this purpose of pictures with a part missing, absurd situations, lotto boards, Ebbinghaus tests. In addition we tried to preserve partially the fundamental Binet-Simon principle of applying to every successive year a particular set of tests. By graduated increase of difficulty with every year, calculation of the I.Q. could as easily be made as with the Binet-Simon tests, the Stanford revision and the Terman and Merrill. As greatest divisor we took 16, contrary to the second revision of Terman and Merrill, in which 15 was adopted as greatest divisor. Our reason for doing so was that the deaf child usually attains his highest capacity of achievement after the 15th year, as his education requires more time. The different tests we used were carefully selected from existing and standardized tests and combined for our purpose. A study of intelligence has of course its practical value as it renders possible a selection of the children for different school classes and plays an important part in the choice of an occupation. If it were possible to make use of the same tests for the deaf and the hearing, without their offering too many difficulties for the former and too few for the latter, we consider that there might be something gained. In digression it may be said most investigations known to the writer are mutually contradictory because:

1. The examined group was seldom or never strictly classified;
2. The tests used were of unequal value;
3. Psychic disturbances that were not directly connected with the intelligence may show an intellectual deficiency that in reality does not exist.

Especially in group examinations are such factors neglected. In the opinion of the writer the deaf child is not a subject for mass examination, but requires individual attention. And it is especially the occurrence of neurotic inhibitions, which have much more serious consequences with the deaf than with the hearing, that renders it desirable to have other psychological investigations made besides the intelligence testing. The study of the *reaction time* is important in this connection. The reaction time, as is well known, is the time that elapses from the moment in which a stimulus is exposed to the moment in which the person on whom the experiment is carried out, reacts. With the deaf child we can apply light and touch stimuli, while with the hearing-mute different forms of sound-stimuli are applicable.[2]

Without doubt there is a fixed correlation between the general intelligence level and the reaction time. Not only in pathological intelligence defects but also in normal people without proper school education lengthened reaction times are found. Rossi found larger reaction times in deaf persons having received no school education than in those who had

[2] In the Rotterdam laboratory we determined the different forms of attention as well as the reaction time with the help of a board which showed an irregular display of luminous spots in different colors. The subject sat at a distance of 4½ yards from this board and could according to the order close a contact with hands or feet. The moment of application of the stimulus, the kind of stimulus, the spot, where the stimulus appeared on the board, the reaction with right or left hand or foot, were registered on a drum together with the time. On completion of the entire experiment everything could be measured. By the application of interfering stimuli of various kinds it was possible to place the subject in different situations and then to create in the experiment an equivalent to the case of the apperception faculty working under difficult circumstances of everyday life. In this way it also became possible to control narrow and wide, static and dynamic, focussed and transferred attention. The rate of perception tempo and of acting are measured together by determining the reaction time. In the latter are consequently also included the degree of co-operation during the experiment, the understanding of complicated orders and the associative processes influencing the accomplishment. Although in this experiment not everything can be expressed in numbers, the conduct of the subject teaches us more about his psychology than is usually assumed. An elaborate record of all details during the experiment is therefore most desirable, for only in that case will its composite character have the possibility of being reflected in the results.

it regularly. In these cases we clearly see the variable component of the reaction time with relation to training.

More constant is the individual reaction type, which is obtained by continuing the experiments for some time. It proved possible to construct from the different manners of reacting motor and sensory types. The former react very quickly, so that sometimes the reaction time even approaches the reflex time which as we know comprises unconscious processes. In these cases we must assume that there is a question of unconscious, automatic reactions. Without doubt these reactions are closer to the reflexes than conscious reactive movements which are found more in the sensory types. Occasionally the subject reacts twice on the stimulus. In various such cases of hearing people it could be ascertained that the person tested was conscious only of the second reaction; the first proved to be unconscious or automatic. Facts such as these make it probable that the division into motor and sensory types may indeed be adhered to. In the motor type there are several reactions that approach the reflex time, whilst in the sensory type the time is longer and now and then this double reaction is met with.

It is quite clear that an investigation, as described above, can give a deeper insight into the psychic structure of the subjects in whom we are interested. Just as in the intelligence investigation we obtain through it practical hints in connection with the capacity for certain occupations.

A large part of the reaction time is required for the directly motor part of the reaction. We can however also get to know more about the purely sensory part of the reaction time by ascertaining separately the perception time included in the time of reaction. We understand the *perception time* to be the time that elapses from the moment in which a stimulus is exposed to the moment when it is consciously perceived in the brain.

These perception processes vary in length with different people at different times, as Hazelhoff and later Ligterink have demonstrated. Just like the motor part of the reaction time, so also is the purely sensory part, the perception time, dependent on numerous psychic influences. It has been

proved that the perception process is retarded in cases of dementia and epilepsy, in general in conditions of lowered consciousness. With the hearing-mute we must occasionally accept a disturbance in the perception process of the auditory stimulus (cf. classification above).

It is a question whether in this case besides the disturbed perception of auditory stimuli the perception process is also retarded for other sensory stimuli and if in some cases of hearing-mutism we consequently have to accept a disturbance of the process of perception in general. In many forms of deafness a determination of the time of perception is not of such specific importance as in hearing-mutism, but it might there be of general psychological significance in connection with the reaction time, the forms of attention and the intelligence.

The investigation into the perception time may be carried out by the method of Piéron or that of Hazelhoff. In the Rotterdam laboratory the second method was used. Its principle and the description of the apparatus may be found in the theses of Hazelhoff and Ligterink.[3]

[3] Briefly, this experiment is carried out as follows. A closed drum of cylindrical form rotates with a given speed. Two opposite planes of the drum contain a narrow linear slit. At the back of the apparatus there is a light source of constant power, which sends out a narrow pencil of light. The latter appears on a milk-glass screen, as soon as the light source and the two slits of the rotating drum come to lie in each other's paths. Over the plane containing one of the two slits, a narrow stave has been fixed, that is lighted from behind. The result is that during the rotation of the drum this stave at a certain moment throws a shadow on the screen. This shadow turns in the rotating direction of the drum. As the stave is fixed exactly above the place of the split in the drum, the slit of light appears in the shadow of the stave, which moreover is broader than the pencil of light.

The shadow then moves farther along the screen whilst the pencil of light is only visible during a very slight fraction of time, because drum and light-pencil lie only for a very short time in one line. The subject who (well adapted to the darkness) must follow the shadow on the screen perceives the light-pencil in the shadow during an indivisibly short moment. In this moment, in which the perception has become conscious, the direction of his gaze is different from that at the moment when the line of light falls on the retina while he follows the moving shadow. In this moment of conscious perception he projects the pencil of light somewhat removed from the place on the screen, where it appeared in reality. As the place where the pencil appeared is constant and known, the degree of deviation from this real point to that where the subject projects can easily be

Another facet of the psychology of the deaf child is illuminated by a study of his *suggestibility* and his *phantasy*. Experiences of people who for years had dealt with the deaf sufficed to arouse the expectation of interesting conclusions in this domain. Teachers repeatedly reported that they were struck by the fact that the children could hardly ever reproduce with any degree of accuracy what they had perceived and that they told all kinds of untrue, fantastic stories, also that frequently they proved to be highly suggestible. The incapacity of correctly rendering their perceptions as well as the not-infrequent *pseudologia phantastica* makes them very unreliable in giving evidence. Moreover, few hearing people are able to converse with the deaf, and this completes the vicious circle and stimulates the deaf child to permit free course to his fantasy or to withdraw entirely within himself. It makes him declare "not having seen or not knowing anything." It goes without saying that a better understanding of this unusual behavior can only benefit the deaf child. An understanding of these peculiarities may be reached in the laboratory. An investigation by projecting pictures in a darkened room for some time at a stretch seemed well adapted to the purpose of discovering what the person tested could tell about these pictures. In this experiment it is possible to test the suggestibility by putting suggestive questions.

It is natural for children to show an increased suggestibility and tendency to *pseudologia*, and therefore one should, before drawing conclusions, always compare in groups the deaf with the hearing of the same age. In various cases we noted that after the projection the deaf children in comparison with the hearing were able to tell very little

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measured. From this deviation and the rate of rotation of the shadow the time can be calculated that elapses between the moment of the appearance of the stimulus and the moment in which the subject can project the same, in other words, the moment in which the conscious perception is reached. This time is the perception time. Experience shows that after some time the subject is able with a pin with a lighted tip to indicate exactly the place where he saw the light-pencil on the screen. After some exercise and with some patience this test may be applied to most deaf and hearing-mute children.

spontaneously. If we put suggestive questions, their suggestibility proved greater than normal. But what was most striking was that their reliability was often very slight, as the following instance may show. A thirteen-year old girl reported she had seen the following after the projection of a picture which showed a platform, a train and travelers: 1. a man and a woman fighting; 2. a ship at sea on the point of sinking; 3. a cyclist falling from his bicycle owing to the slippery ground; 4. two motor cars colliding; 5. that which the picture showed in reality. Upon request, the child then with great certainty and decision indicated on the screen where she had seen all these things. Such remarkable behavior we repeatedly met with during these experiments; in fact it was the rule. Also in the investigation of suggestibility the same behavior was brought to light. One of the pictures showed a girl down to the waist. To our question as to what kind of shoes the child wore we did not always get an ordinary answer pointing to increased suggestibility, *i.e.*, that the child wore low shoes, but much more than that, such as, that the child wore low shoes that were brown and of which the heels were unequal, the laces were probably made of leather and that it was very clear that the shoes were old and worn out.

This behavior is very striking; it may perhaps be explained by the fact that there is a dire poverty of words which easily causes the tendency to over-compensate in a sort of *pseudologia phantastica.* This may be compared to the phenomenon of confabulation in the senile, when the defect in memory is the cause of the compensation. The form of unreliability which we notice in our subjects is, as is shown above, of forensic significance. Even more than with hearing children the judge must be on his guard with respect to the evidence of deaf persons.

This investigation shows in some cases, besides visual apperception, suggestibility and fantasy, also a definitely eidetic disposition. The ample investigations of Hofmarksrichter, Brunswik and Kindermann, Ohwaki, and others have incontestably shown that deaf children have a stronger eidetic tendency than do the hearing. As to how far this

eidetic trait is preserved and strengthened by school education, which for deaf children is almost entirely on a visual basis, has not yet been determined. From the various investigations of eidetic persons it has become clear that the greater majority of these are young people; also there is a greater frequency of eidetici among young people who are deaf than among hearing children. With the hearing the eidetic disposition seems to disappear as they grow older. In most cases this is a fortunate thing, because the tendency to form positive after-images may have a disturbing effect on the perception process and the whole mentation. The deaf child, however, has greater need of the eidetic factor than the hearing person, because abstract thinking plays with him a less important part and he is restricted to a more concrete form of thinking. In the process of perception the deaf child quickly assimilates concrete facts; owing to a dearth in vocabulary he is inferior in economical thinking and in fixing perceptions as abstractions in a simple form. The eidetic capacity is very helpful to him, as it permits him to perceive a long time after the image has disappeared. On the one hand a benefit, this capacity is on the other hand a disadvantage, as it disturbs the quiet current of thought and leads to overcompensation. Where the hearing child is able to condense his perceptions and thoughts through the wealth of his language, the deaf child is forced to preserve his thoughts, perceptions and images for a very long time in their concrete form, as this is the store upon which he draws in the process of recall.

A further consequence of the restricted vocabularly is the fact that after the projection the deaf subject as a rule can spontaneously report very little. The eidetic activity affects spontaneous utterances to but a slight degree. The most important factor is the poverty in language and speech that causes an inhibition in the spontaneous tendency to speak, just as in aphasia. Contrary to the experience in aphasia, the inhibitions disappear if the deaf child is given help by subsequent questioning as to what he has seen. Then he very often begins to confabulate. This confabulation serves to extricate him from the embarrassment that is bound to

arise when it appears how much hampered he is in the rendition of what has really been perceived. The subject will then very often make the fixed projected picture into a kind of film, in which he exteriorizes, as it were, a number of his emotions. (Also with the pictures of Rorschach one sees this phenomenon.) Closer analysis of this apparently meaningless filmic story might provide excellent insight into the affective life, if the laboratory worker would only continue to listen patiently and dare enter into the less exact domain of the psycho-analysis of the deaf child. Sometimes, however, the confabulation is but apparent and the effort of the subject to say things as clearly as possible only makes the impression of *pseudologia*. An instance follows. On one of the projected pictures there was a railway guard in a blue cap; (in Holland the station master always wears a red cap, the guard never). The subject took the guard for the station master, did not know the word "station master" and spoke of the "train man in the red cap, who wears a blue cap."

The foregoing makes it clear that the deaf often do not lose their eidetic disposition in riper years because it is useful and a compensatory element to them. Besides the eidetic disposition however, there is a directly visual compensation demonstrated by experiments with projected figures (Hofmarksrichter). This visual apperception of simple figures and of letters is greater with deaf than with hearing children. The ease with which visual images are retained is very probably owing to the method of instruction; the latter must induce the eyes to take over an important part of the function of the ear.

There is also a compensation in the domain of *touch*. The ease with which deaf children by the method of Bárczi learn to feel and to recognize words spoken into their ear may in itself be indicative of a refinement of the sense of touch. Experimentally this can be demonstrated in the following way. Simple objects are packed in flannel cloth as indicated by Wiersma. Each packet is wrapped up in one cloth less than the preceding one, and in this way the bundles become easier to recognize with each packet. One begins

by putting before the subject the packet with 6 rags, then the one with 5 and so on. Naming the object may lead to difficulties, but these may be overcome. One can also submit to the subject metal cylinders filled with gravel, sand, little nails, rice, etc., and ask him to choose from a second identical series a cylinder filled with the same substance he has before him in his own cylinder. In this series of experiments a certain degree of exactness and analytical ability finds expression besides the quality of the touch. The results of all these experiments, recorded in detail, are doubtless of great value in connection with the capacity for certain trades or occupations.

An investigation of quite a different character, which is of theoretical and practical importance, is that of the *field of consciousness*. As a rule the field of consciousness is determined in the best way by the well-known tachistoscopic methods. The naming of the figures exposed may with younger children give rise to many difficulties that later on can easily be avoided. In the psychic form of hearing-mutism we may expect a narrowing of consciousness, as the affective life is generally very much disturbed in these cases. Also in other forms the field of consciousness may be disturbed, as it often is in deafness. As an additional help in the further general psychological investigation the determination of the field of consciousness is important. In neuroses, especially hysteria, and in debility the field of consciousness is diminished, also resulting in preoccupation and great fatigue. When poor results in the examination of the intelligence and very good ones in that of the field of consciousness are arrived at, we should consider it an indication to repeat our investigations.

An investigation capable of providing information concerning the concentration of attention is the determination of the dispersion curve of the vacillations of the *attention* according to Toulouse and Piéron or according to the Bourdon-Wiersma test. The person tested is asked in this test to strike out a number of figures from the list. The time required by the subject for every line is registered by stop watch or automatically. By registering the time in curves,

we obtain information concerning the dispersion of the vacillations of the attention. This method also allows us to define the exactness of working. When there are very large vacillations we should think of epilepsy or psychopathia. Especially is the diagnosis of epilepsy important in the deaf child, as cerebral disturbances are not seldom met with in deafness as well as in hearing-mutism. In normal cases, however, what has our chief interest is whether the subject has an exact and a fluent way of working or whether he is exact but slow. Psychasthenic natures often show this characteristic; they do not make a single mistake, but they are pathologically slow. Slowness and slovenliness together suggest debility.

In conclusion it may be desirable to make a few remarks on the *special technique* in the psychological examination of these children. In the psychological examination of the deaf child and hearing-mute it is of the utmost importance that the examiner "know" the deaf. When the present writer began the examination of deaf children, he frequently realized that he was a perfect stranger to their mentality and consequently inclined to draw wrong conclusions. This could only be avoided by the co-operation of the psychologist-psychiatrist and the teacher of the deaf with his training through years of experience. It turned out that the simplest tasks could not directly be set to these children; the tasks had first to be translated into the language of the deaf and the answer had to be transposed again into the language of the hearing. If one is able to make clear to them the precise nature of a task, it becomes quite possible to set them tasks that presuppose a certain vocabulary.

If the deaf subject, however, is not intelligent, very little can be got out of him; in that case he does not seem to be of an average stupidity, but sunk to the level of debility. It is easy to understand that non-intelligent deaf children, who begin to feel discouraged when a task is given them, withdraw from the outsider and allow a contact only in the simplest matters. A negative or a psychasthenic attitude on the part of the subject to the examined prevents all further examination, but the presence of somebody who is

able to speak easily with him, renders the whole atmosphere more encouraging and confidential. In these cases the atmosphere is of the greatest importance.

If the above-mentioned conditions have been fulfilled and strong inhibitions are still met with, there likely is an indication of a neurosis and the subject should be examined and eventually treated psycho-therapeutically. It goes without saying that the deaf person suffering from a neurosis, puberty-crisis or the like, is in a very bad predicament if these disturbances remain unrecognized. These cases show as a rule a sham debility and the patient conceals his conflicts under this mask. Experimental examination generally gives indications of this form of behavior.

It would lead too far afield to take up in this connection the subject of disturbances of drives and effects. In the investigation described above, we now and then saw indications of disturbances of a neurotic character. An experiment that gives a more direct clue as to the eventuality of disturbances in the emotional life may also be performed in the research laboratory. This is done by means of graphic registering of pulse, blood pressure, plethysmogram, psychogalvanic reflexes and eventually electrocardiogram, examination of sweat secretion and fluctuations in the sugar content of the blood. In most cases, however, we can do without these psycho-physiological methods, which have more a theoretically scientific significance than that they are of practical use, and we shall much prefer purely psychological methods of examination.

All the investigations discussed make it possible to strengthen considerably our knowledge of the psychological accompanying phenomena of deafness and hearing-mutism, to give us an inkling of the essence of these disturbances and thus lead to further treatment, school education and choice of a vocation. The results of the experimenting will always need critical consideration on account of the complicated character of the matter. So profound a disturbance as the lack of hearing in infancy must necessarily have a strong influence on the psychic structure and cause essential changes in the growing individual. In some cases there is the

additional factor of a primary disturbance of the brain and thus the deafness causes further disturbances to arise secondarily in the course of mental development. Then it often happens that the deep gap between deaf and hearing people becomes a yawning abyss, especially when psychosis is the final stage of the process of development. Better understanding and an increase in our knowledge concerning all this may contribute to bringing the life of deaf children closer to that of hearing children. Compared to former times, much has been done. But, as everywhere in science, wider horizons loom, beckoning to deeper penetration into the problems confronting us. This should stimulate to further research. One general truth may put us on guard against self-satisfaction: Unlimited patience and a critical sense on the part of the investigator can only benefit these subjects who otherwise find so little understanding abroad.

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Nomenclature

I.S.F.

In an effort to remove much of the confusion that beclouded the meanings of terms relating to deafness, the Conference of Executives of American Schools for the Deaf, at its meeting in Pittsburgh in 1936, entrusted to a special committee the task of drawing up definitions and of recommending standards for nomenclature. This committee consisted of Mr. Elwood A. Stevenson, principal of the California School, chairman, Dr. Ignatius Bjorlee, superintendent of the Maryland School, Mr. T. C. Forrester, superintendent of the Rochester School, Mr. Clarence D. O'Connor, superintendent of the Lexington School, and Professor I. S. Fusfeld, of Gallaudet College.

More than a year later, at a special meeting of the Conference in New York City in 1937, this committee submitted a report of its deliberations. The report was approved and adopted without a dissenting voice. The set of definitions, which thus became the official expression of that body of educators of the deaf, reads as follows:

1. *THE DEAF:* Those in whom the sense of hearing is non-functional for the ordinary purposes of life.
This general group is made up of two distinct classes based entirely on the time of the loss of hearing.
(a) The congenitally deaf—those who were born deaf.
(b) The adventitiously deaf—those who were born with normal hearing but in whom the sense of hearing became non-functional later through illness or accident.
2. *THE HARD OF HEARING:* Those in whom the sense of hearing, although defective, is functional with or without a hearing aid.

This set of definitions finds its principal virtue in the fact that it confines itself to that which it is supposed to define, impairment of the sensory experience of hearing. It does not wander into ability to write, or ability to spell on one's hand, or ability to walk, or ability to talk. It properly addresses itself to the question of loss of hearing, unencumbered by other qualifying facts.

The October 1940 number of the *Phi Delta Kappan,* a monthly journal for the promotion of research, service and

leadership in education published by Phi Delta Kappa, a professional fraternity in education, was given over to the subject of Education of Exceptional Children. Among the articles was one on Children Who Cannot Hear Well by Miss Josephine B. Timberlake, editor of the *Volta Review*. Ignoring the Conference definitions, Miss Timberlake in this article offered the following classifications:

I. The deaf
II. The partially deaf
III. The hard of hearing
  a) Slightly hard of hearing
  b) Moderately hard of hearing
  c) Severely hard of hearing.

The *deaf* were defined by her as

(1) Those children who were born either totally deaf or sufficiently deaf to prevent establishment of natural speech and language; (2) those who became deaf in childhood before language and speech were established; (3) those who became deaf in childhood so soon after the establishment of natural speech and language that the ability to speak and understand speech has been practically lost to them.

The *partially deaf* were:

Those children who, even with the help of favorable seating, hearing aids, or instruction in lip-reading, fail to make satisfactory progress in the regular schools.

And the *hard of hearing* were described as

(1) Those children who have lost varying degrees of hearing after the establishment of speech and the ability to understand language; (2) those with sufficient hearing to understand spoken language, either with or without a hearing aid.

The major flaw in the terminology here suggested lies in the effort to define one faculty in terms of another, that is, the "deafness" of a child is made dependent upon the amount of speech he possesses. Thus, if a child has become deaf—*totally deaf*—after the establishment of natural speech and language, then according to the Timberlake definition he is *not* deaf. What then is he? Is he only *partially* deaf? Or *hard of hearing* (slightly, moderately or severely)? It does not help to call him a "Special Case."

Then there is the apparent inconsistency that the standard for classifying these children, *i.e.*, speech, is not uniformly applied. Thus, whether a child is to be classed as "deaf" or "hard of hearing" depends upon the speech he has or lacks, but no such dimension is employed in describing "the par-

tially deaf." It is obvious that if the latter were judged by the same scale they would be either "deaf" or "hard of hearing," and so there would be no need for the class "partially deaf."

In the *Volta Review* for March 1942 Miss Timberlake returns to the discussion of Terminology: "Deaf"—"Hard of Hearing." This time the *Phi Delta Kappan* definitions are abandoned; at least no mention is made of them. Instead, attention is called to a set of definitions proposed by the White House Conference on Child Health and Protection in 1931 and to the Conference of Executives definitions adopted in 1937, with the comment that to the *Volta Review* neither set of definitions is wholly satisfactory. And by a strange contradiction Miss Timberlake, while "holding no brief for the White House Conference definitions," has forgotten that the definition of the deaf there proposed and the one she offered in the *Phi Delta Kappan* article are practically identical.

The point of the discussion in the *Volta Review* seems to be that the definitions drawn up by the Conference of Executives of American Schools for the Deaf are not satisfactory when applied to adults because they do not adequately allow for the presence or absence of speech, and by way of summation, the following illustration is offered:

> Here are two young men, Henry Brown, totally deafened at the age of twenty-three, and Robert Smith, who lost all of his hearing at the age of four. Brown, of course, speaks with ease and fluency. Smith, on the other hand, either because of or in spite of his school experience, makes no effort to speak. Unquestionably both of these boys are "adventitiously deaf," but can we reasonably expect the public to think of them as similarly handicapped? Is deafness, in both of them, the characteristic that is most noticeable to the public? *We know very well that it is not.*
>
> Suppose Brown, overwhelmed by his deafness, withdraws from his hearing friends. Will he, then, think of himself as belonging to the same group as that into which Smith inevitably falls? And will he associate himself with them? We know he will not. He may gravitate to a hard-of-hearing group, but he will not seek the society of those who do not speak.

One is led to speculate on this presentation. If Henry Brown has been totally deafened, is he not—as the Conference of Executives explanation would have it—*deaf?* If he is not deaf, what is he? The *Volta Review* does not approve

the Conference classification, but it offers no satisfactory substitute.

The objections raised by the *Volta Review* are ably dealt with by Mr. Michael Lapides, editor of the *California News* in the March 1942 number of that publication. In his opinion,

> Here she is confusing the degree of hearing defect which is measurable with the degree of the ability to speak and perhaps read lips which cannot be so easily measured. The loss of hearing is as measurable in adults as in children who themselves grow up to be adults after they leave school.
>
> The difference between those who can speak and those who cannot speak, cannot be made the sole criterion of judging the value of the Conference definitions because the editor is confusing the matter of social and economic background, training and adjustment with that of measurement. How any adult who can speak will adjust himself to his environment at any given period of his life depends upon the variable factors of his previous social and economic background and training. If he should gravitate to the heard-of-hearing group, he is following his line of least resistance toward "life, liberty and the pursuit of happiness" in a practicable way. On the other hand, any adult who can speak but cannot read lips might probably gravitate to the deaf group, and he, too, is exercising the same constitutional right in a practicable way. After all, in each case, the degree of social adjustment is dependent upon one's own practical view of what constitutes a normal and happy life.

In conclusion, it is here held that the definitions adopted by the Conference of Executives of American Schools for the Deaf clarify the issue by stripping it of unessentials. No one questions the value of speech in the equipment of the deaf person. But the view of the educators is that the matter of speech has no bearing in deciding whether a person hears or does not hear. The aurist in his office does not write down a patient as deaf or hard of hearing by an examination of his vocal organs. But he can, without prejudice to logic, write into his record that one person is *deaf* if his hearing is so impaired that it is non-functional for the ordinary purposes of life, and that another is *hard of hearing* if his hearing, even though defective, still functions—either with or without mechanical aid—for the ordinary purposes of everyday living.

Miscellaneous

I. S. F.

Certification.—Additional names to be included in the list of those making application for Teachers' certificates under the Conference of Executives of American Schools for the Deaf are the following, bringing the total to date to 1227:

Joseph Augustin Bossier, Jr., Louisiana School
Robert George Clingenpeel, Indiana School
Fred E. Cobb, Tennessee School
Anna Louise Connell, Kansas School
Harriett Louise Haskins, Iowa School
Sadie Lillard, Montana School
Elizabeth L. Moss, Indiana School
John W. Shaver, Texas School
John E. Taylor, Virginia School
Isabella Carter Wright, Utah School

Washington's Deafness.—In a series of articles on The Medical History of George Washington (1732-1799), in the Proceedings of the Staff Meetings of the Mayo Clinic, February 11, 18, and 25, 1942 (Vol. 17, Nos. 6, 7 and 8), F. A. Williams and T. E. Keys tell of the impairment of hearing which George Washington experienced. "In later years," they say, "Washington's hearing became impaired, and in 1793 Maclay stated he believed the President heard only a small part of the conversation in which he was engaged." This was when he was 61 years old.

In this series, also, the authors quote a contemporary of Washington, who observed that the latter "had false teeth, which did not fit and pushed his under lip outward." It was this latter condition, apparently, to which another of the writers mentioned in the series of articles attributed the deafness of Washington in his later years. This deafness, it seems, was due, "in a measure at least, to excessive closing of the bite, which caused encroachment of the lower jaw on the external opening of the ear."

It seems also that Washington, for a large part of his life, had recurrent episodes of malaria, for which the com-

mon treatment was the use of quinine. There is a good deal of probability that to this practice may be laid the deafness which he was reputed to have had.

Wonderful News!—In *Woman's Home Companion,* April 1942, we find a brief article on "How Is Your Hearing?" by Agnes Rothery. The writer gives excellent advice for the hard of hearing as well as for those with whom they have to deal in their daily living. The former are urged, once reasonable, even if unavailing, effort has been made to obtain expert medical remedy, to seek out the best hearing aid, and to pursue proficiency in lip-reading.

But, like many another writer unacquainted with the problems of educating deaf children, the one in this case makes a rather broad statement when she maintains: "It is wonderful news to parents that even a totally deaf child, if otherwise normal, can, if he begins lip-reading before the age of three, often take his place in public school by the time he is twelve, and even join in the school orchestra."

Summer School for Teachers of the Deaf at Washington University.—The Summer School of Washington University, St. Louis, Mo., will this year include among its offerings a series of courses for teachers of the deaf. One of the features will be a Workshop course, "a seminar and workshop for advanced students who have actual problems on which they wish to work." In this course also "Opportunity is afforded groups from any school to work on problems relating to that school, under the direction of specialists." This plan of study is in keeping with one of the newer tendencies in pedagogy, namely that of taking school problems to a university "laboratory" where wide facilities are available for group study and investigation. The course in this case will be led by Mrs. Rachel D. Davies and Mr. S. Richard Silverman, both of the staff of Central Institute for the Deaf.

Mrs. Davies will also conduct a course in Reading and Language for the Deaf, and Mr. Silverman will offer a course in Psychology and Pedagogy of Problem Children. For further details one may write to Prof. Frank L. Wright, director of the Summer School.

Early Closing of Schools.—It is inevitable that the turning of the nation's energies to war activity should affect the operation of schools for the deaf. In Canada at least two of the larger provincial schools have had their buildings and grounds taken over by the military authorities for training purposes. In the United States the effect is felt in a number of ways. Members of the staffs are being called to the armed services. In most instances the rising cost of staple commodities and materials has made maintenance extremely difficult, especially since appropriations have usually been allotted well in advance, with little or no provision to account for sudden market changes. The increases in cost of maintenance have been estimated to be from 10 to 33 per cent; in some cases the cost of staples has risen as much as 75 per cent. Further complication arises from the national need to halt or sharply limit production in many of the common types of civilian goods so as to divert the raw materials to war production purposes.

Two schools, the Mississippi and Oklahoma Schools, have recently been granted additional appropriations to tide them over this period of transition and enable them to complete the present session. A number of other schools, however, are constrained to curtail the school term. The Missouri School has decided to close April 30, three weeks earlier than usual, but has adopted a six-day school week for the present so that no school time would be lost. The Montana School has also gone on a six-day school week so that the session may be completed by May 15. Due to the emergency, the Wisconsin School and the South Dakota School are closing May 12 and May 15, respectively. The West Virginia School is to hold classes on Saturdays for five weeks beginning March 28 and so close on May 15, instead of May 22.

One of the indirect motives for these early closings is the opportunity they will afford the older pupils to find employment in occupations related to the war preparations.

Victory Fund.—In this time of emergency the deaf have risen in a united appeal to establish a Victory Fund as an

expression of their desire to help. The ANNALS finds pride in giving publicity to this appeal, with the hope it may help swell the results.

THE
VICTORY
FUND

The National Association of the Deaf, representing the deaf of America, is receiving contributions to the VICTORY FUND, with which to purchase for the UNITED STATES GOVERNMENT a gift for use in the war against Axis barbarians.

A Gift from the American Deaf
to Their Fighting Forces

Every deaf person in the United States is asked to contribute A DOLLAR OR MORE—to give handsomely. The nature of our gift to the Government will depend on the size of YOUR contribution. In the last war, the deaf gave an ambulance. We should do more than that, this time.

The deaf of the United States already are contributing to the cause—

Meeting Our Share of the Tax Burden
Buying Defense Bonds and Stamps
Helping Man the Machines of Production
Working for the Red Cross

Our stalwart sons are on the battle fronts, but young deaf men are unable to serve in the armed forces.

Let Us, Therefore, Serve by Giving

Individuals are expected to give. State associations, clubs, societies, schools, Sunday schools, and all other groups of patriotic deaf are expected to give.

Do Not Wait to be Asked—Send in Your Personal or Group Contribution Now. Remember—

"He Gives Twice Who Gives Quickly"

Send contributions direct, to

B. B. Burnes, Secretary-Treasurer
National Association of the Deaf
California School for the Deaf
Berkeley, California

A Preschool Experiment.—An innovation in school practice is announced by the Michigan School in a Bulletin of Information (vol. 1, no. 1). The school is to hold a Nursery School over a three-weeks period, April 7-24, for the benefit of the mothers of very young deaf children and the children themselves, a sort of "institute" for the adults and a conditioning try-out for the children. Under direction of selected members of the staff, a plan has been arranged by which the mothers are invited to be guests of the school and participate

with the children in a special short course of instruction and practice. The schedule is to include the following activities:

8-8:30. Observing the child's association with others.
8:30-9:15. Preschool training for the child, discussion groups, answers to questions, reports on reading.
9:15-9:45. Recess.
9:45-10:45. Observation of deaf and hard-of-hearing children in school.
10:45-11:30. Electives.
11:30-2:00. Dinner, rest, and study.
2:00-3:00. The School faculty co-operating in the study of the following subjects concerning the deaf or hard-of-hearing child:
The three handicaps of the deaf child—the deaf child and his language problem—reading and writing for the deaf—why the deaf child does not talk naturally—the teaching of speech to the deaf—communication with the deaf—speech reading as an art—deafness and courtesy—the deafened child and his education—the hard-of-hearing child and his speech—Compensation for hearing losses—development and use of residual hearing—hearing aids and who can use them—why a school like M.S.D.?—history of the education of the acoustically handicapped—history of Michigan School for the Deaf—home training in speech, speech reading and language—reading in the home—prevocational training in the home—arts and crafts at home—how can the deaf or hard-of-hearing child be made self-supporting?—what the future holds for the deaf or hard-of-hearing child—the family diet—a health program for the child—the child in school and his clothing needs—the child in school and his money—the child in school and letters from home.

Only residents of the state are eligible to take the course, and parent and child must come together. While the mothers are in classes, the children will be playing under supervision. Board and room are provided without charge.

The morning period of electives affords opportunity for each mother to choose any school activity which she would like to learn, in any department of the school curriculum. She will also have the opportunity to take turns in planning, cooking, and serving the noon meal under direction of the school dietitian. In addition a series of recreational activities is planned.

The purpose of this novel program is expressed in the Foreword of the *Bulletin,* namely—"it is necessary that parents provide early for the language, speech, speech reading, use of hearing, and social development of their hard-of-hearing or deaf child."

Deaf Persons Exempted from a War Order.—A peculiar exemption in which deaf persons may be involved comes

to light in a recent military order made public. This has reference to the requirement for voluntary evacuation of Japanese residents from West Coast areas. Those who did not take advantage of this opportunity for voluntary evacuation have now under a new ruling been "frozen" to their home communities, where they must remain under drastic restrictions until they are moved farther inland by the Army. Among these restrictions are the compulsion to remain within 5 miles of their homes at all times, and be inside their houses from 8:00 P.M. until 6:00 A.M., and all contraband articles such as weapons, signal devices, etc., must be surrendered to the authorities. According to an Associated Press despatch, appearing in the Washington *Evening Star,* March 30, 1942, certain classes of persons may gain exemption from these regulations, and among those listed as eligible are "the deaf, dumb and blind." It is not made clear, however, why such persons should be given this special classification.

"I Am an American" Day, 1942.—For these days of trial we present the following proclamation as worthy of thought and action.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA
A PROCLAMATION

WHEREAS Public Resolution No. 67, approved May 3, 1940 (54 Stat. 178), provides in part:

"That the third Sunday in May each year be, and hereby is, set aside as Citizenship Day and that the President of the United States is hereby authorized and requested to issue annually a proclamation setting aside that day as a public occasion for the recognition of all who, by coming of age or naturalization, have attained the status of citizenship, and the day shall be designated as 'I Am An American Day.'

"That the civil and educational authorities of States, counties, cities, and towns be, and they are hereby, urged to make plans for the proper observance of this day and for the full instruction of future citizens in their responsibilities and opportunities as citizens of the United States and of the States and localities in which they reside"; and

WHEREAS it is even more essential in time of war than in time of peace that a people should fully understand the form and genius of their Government and the responsibilities of citizenship:

NOW, THEREFORE, I, FRANKLIN D. ROOSEVELT, President of the United States of America, do hereby designate Sunday, May 17, 1942, as "I Am An American" Day; I urge that the day be set

aside as a public occasion for the recognition of all our citizens who have attained their majority or who have been naturalized during the past year; and I call upon Federal, State, and local officials and patriotic, civic, and educational organizations to take part on that day in exercises designed to impress upon all our citizens, both native-born and naturalized, the duties and opportunities, of citizenship and its special responsibilities in a nation at war.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States of America to be affixed.

DONE at the City of Washington this seventh day of April, in the year of our Lord nineteen hundred and forty-two, and of the Independence of the United States of America the one hundred and sixty-sixth.

(SEAL)

FRANKLIN D. ROOSEVELT

By the President:
SUMNER WELLES
Acting Secretary of State

Certification Standards for Teachers of Special Education in Pennsylvania.—A statement in *Pennsylvania Public Instruction,* February 1942, official bulletin of the Department of Public Instruction, outlines the requirements for Teacher Certification in special education for that State, including of course classes for the deaf. The College Certificate is issued to teachers of such special classes, in either elementary or secondary levels, provided they have a diploma of graduation from an accredited college in an approved course of study for their particular field of teaching. In their case also the requirements may be extended to include approved special education courses, that is, in education of the deaf, to the amount of 20 semester hours. A certificate when so issued is valid for three years, but it may be made permanent by evidence of three years of successful teaching experience and six semester hours of additional college study, one half of which shall be professional and one half in the subject field of teaching named on the certificate. Visual education is also required, either before or after graduation.

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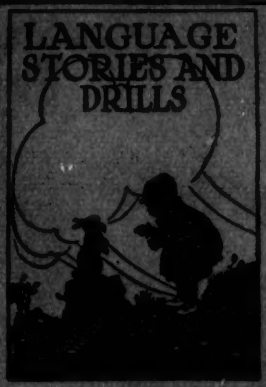

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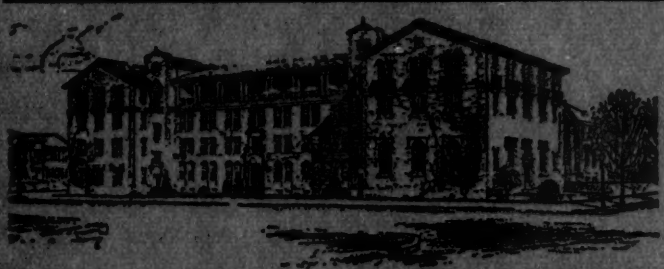

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